Designation of Federal Airways, Area Low Routes, Controlled Airspace, Reporting Points, Jet Routes, and Area High Routes

This edition replaces the existing loose-leaf Part 71 and its changes.

This FAA publication of the basic Part 71, effective December 12, 1962, incorporates Amendments 71-1 through 71-14 with preambles.

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date of new material appear in bold brackets at the end of each affected section.

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Subpart K—Terminal Control Areas

Subpart L—Airport Radar Service Areas

[Subpart M—Jet Routes and Area High Routes

Subpart A—General; Class A Airspace

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Subpart C—Class C Airspace

Subpart D—Class D Airspace

Subpart E—Class E Airspace

Subpart F—[Reserved]

Subpart G—[Reserved]

Subpart H—Reporting Points

During the life of the recodification project, Chapter I of Title 14 may contain more than one Part bearing the same number. To differentiate between the two, the recodified Parts, such as these, will be labeled "[New]". The label will of course be dropped at the completion of the project as all of the regulations will be new.

Subchapter E [New] was published as a notice of proposed rule making in the Federal Register on July 3, 1962 (27 F.R. 6300). That notice contained a statement that, when finally adopted, the new subchapter might include "applicable rules on which individual notices of proposed rule making have been issued and the comment period has expired, but which have not been theretofore adopted".

As proposed in that notice, Subchapter E would have consisted of Parts 71, 73, 75, 77, and 79. However, as a result of a notice of proposed rule making published in the Federal Register on November 21, 1961 (stating that the Agency proposed to combine current Parts 600 and 601), and in accordance with the quoted language in the preceding paragraph, the proposed new Parts 71 and 73 (based on 600 and 601) have been combined into a new Part 71. The comment period on that notice expired on January 5, 1962. The proposed Parts 75, 77, and 79 have been renumbered as Parts 73, 75, and 77 respectively.

The purpose of the combination in the new Part 71 is to effect the modernization of the Code as it pertains to the designation of Federal airways and associated controlled airspace.

As stated in the notice of November 21, 1961, this modernization was prompted by the adoption by the FAA of Amendment 60–21 to Part 60 of the Civil Air Regulations which redefined the vertical extent of controlled airspace (26 F.R. 570), and the implementation of a three-level route structure within the United States (Airspace Docket No. 60–WA–53, 26 F.R. 1079). The notice further stated that the proposition would result in the following actions:

"Provide that the control areas associated with Federal airways coincide with the extent of the airways and be automatically included in the designation of airways."

"Provide a basis for the designation of control areas to be associated with jet route segments and intermediate altitude airway segments outside the continental control area."

"Clarify the vertical extent of the controlled airspace between the main and alternate VOR Federal airways when the control area floor provisions of Amendment 60–21 are applied."

In addition, the notice proposed various editorial changes with the intent of furthering simplicity and clarification in the designation of Federal airways and controlled airspace.

Comments to the notice were received from the Air Transport Association of America (ATA) and the Department of the Navy.

The ATA agreed with the consolidation of Parts 600 and 601 and offered some recommendations to facilitate this accomplishment. Advanced were various editorial changes, some of which have been accepted and are incorporated herein.

Among the recommendations was one concerning reporting points. The ATA was of the opinion that all compulsory and noncompulsory reporting points should be listed in the new Part. The FAA has reviewed the requirement for compulsory reporting points. In Airspace Docket No. 62–WA–59 (27 F.R. 5759) action was taken to reduce the burden on the pilot by deleting those reporting points no longer required for air traffic control purposes, and by designating certain reporting points as applicable only to specific airways or directions of flight, or both. These reporting points are published on aeronautical charts and indicate to the pilot that a position report to air traffic control is mandatory. However, the FAA is of the opinion that noncompulsory reporting points should not be included in the revised Part 71 since these reporting points are used less frequently for air traffic control purposes, and a position report is not mandatory. These reporting points are published on aeronautical charts for the convenience of pilots and controllers, and a position report is necessary only when requested by air traffic control.

The descriptions of airways, reporting points, and controlled airspace, to be contained in Subparts B through J of the new Part 71 are not, because of their complexity and length, set forth at this time. They will be published by November 12, 1962, to become effective with the rest of the Part on December 12, 1962.

The airspace reservation descriptions in Part 73 [New] and the jet route descriptions in Part 75 [New] also are not set forth in this revision. The pertinent sections of current Parts 602 and 608 are redesignated as sections of the new Parts 73 and 75, and are otherwise unaffected by this revision.

The definitions, abbreviations, and rules of construction contained in Part 1 [New] of the Federal Aviation Regulations (27 F.R. 4587) apply to the new Subchapter E.

Interested persons have been afforded an opportunity to participate in the making of this regulation, and due consideration has been given to all relevant matter presented. The Agency appreciates the cooperative spirit in which the public's comments were submitted.

In consideration of the foregoing, effective December 12, 1962, Chapter III of Title 14 of the Code of Federal Regulations is amended by deleting Parts 600, 601, 602, 608, and 626, and Chapter I of Title 14 is amended by adding Subchapter E [New]* reading as hereinafter set forth.

This amendment is made under the authority of sections 307, 313, and 1101 of the Federal Aviation Act of 1958 (48 U.S.C. 1348, 1354, and 1510), and Executive Order 10854 (24 F.R. 9565).

Airspace Docket No. 63–WA–74

Revision of Airway and Route Structure

Adopted: June 30, 1964 **Effective: September 17, 1964**

(Published in 29 F.R. 8471, July 7, 1964)

On March 28, 1964, a Notice of Proposed Rule Making was published in the Federal Register (29 F.R. 4101) stating that the Federal Aviation Agency was considering amendments to Part 71 [New] and Part 75 [New] of the Federal Aviation Regulations which would accomplish the following:

1. Alter the lateral and vertical extent of all Federal airways except those for Alaska and Hawaii, where the existing vertical extent would be retained.

2. Alter the vertical extent of jet routes.

3. Revoke the intermediate altitude VOR Federal airways and associated positive control route segments.

4. Revoke intermediate altitude reporting points.

Interested persons were afford an opportunity to participate in the rule making through submission of comments. The following comments were received:

1. The Department of the Navy concurred with the proposals subject to later consideration of the actual descriptions of airspace assignments and considers the proposals consistent with the Navy and marine requirements for use of the national airspace. It urges early adoption of the nautical mile as the unit of measure for all airspace assignments. In addition, for operation above FL 450, it urges that consideration be given to the possibility of permitting direct flight operations by TACAN degree/

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*Includes Part 71—Designation of Federal Airways, Controlled Airspace, and Reporting Points [New]; Part 73—Special Use Airspace [New]; Part 75—Establishment of Jet Routes [New]; Part 77–Notice of Construction or Alteration Affecting Navigable Airspace [New].

definition of jet routes reflect that aircraft may operate at 18,000 feet MSL, and that the floor of jet advisory areas be lowered to 18,000 feet MSL until this service is replaced by positive control. Its endorsement of the proposals is based in part on an interpretation of Agency Order AT 7430.7 that application of the 4.5° systems accuracy figure is intended to permit designation of airways and jet routes for distances greater than the normal spacing of navigational aids of 80 and 260 nautical miles, respectively. Its recommendation on the new airway structure are contingent upon the concept that if signal coverage is adequate between adjacent facilities, airways and jet routes will be designated direct provided no other factors are involved.

The proposed definition of jet routes states in part "Each jet route consists of a direct course for navigating aircraft between 18,000 feet MSL and flight level 450, inclusive,". This clearly states that the jet route structure includes 18,000 feet MSL. The Agency in Notice No. 64–16; Docket No. 4073 (29 F.R. 4105) is considering alteration of Part 91 of the Federal Aviation Regulations to lower the base of the standard altimeter setting (QNE) to 18,000 feet MSL which would, only under certain conditions, establish the lowest usable flight level of 180 (FL 180) at 18,000 feet MSL. It is believed that a statement to the effect that aircraft in the jet route structure may operate at 18,000 feet MSL would generate confusion at this time. Jet advisory areas are being phased out and replaced by positive control areas as the capability develops. The Agency does not deem it advisable to alter the concepts of an operation that is in the process of being discontinued. The extension of positive control to 18,000 feet MSL is the subject of Airspace Docket No. 64–WA–9 and will be disposed of in the processing of that docket. The 4.5° systems accuracy figure is employed to provide additional lateral protection for aircraft when operating along an airway or jet route and is applied after it has been determined that it is necessary to designate the airway or route via facilities that exceed the normal spacing, or where a flight check has determined that the change-over point is at a distance greater than one half the normal spacing. It is the policy of the Agency to designate airways and jet routes direct when no other determining factors are involved.

3. The National Business Aircraft Association concurs with the proposed airway widths, application of the systems accuracy figure and conversion to the nautical mile. It also concurs with revocation of the intermediate altitude airway structure and associated reporting points. It concurs with raising the ceiling of the low attitude airway structure but believes it should be raised to 24,000 feet MSL in lieu of 18,000 feet MSL, and that the floor of the jet route structure and area positive control remain at FL 240. It recommends that existing facilities that are frequency protected between 18,000 feet MSL and 24,000 feet MSL be retained by procedural action and charting symbology and that radar coverage be expanded to aircraft operating between 18,000 feet MSL and 24,000 feet MSL in lieu of imposing the restrictions of positive control.

An altitude of 18,000 feet MSL was established for the division between the route structures after a study of aircraft by type, capability and general altitude usage determined that this was a realistic ceiling for propeller driven and turboprop aircraft and also a realistic floor for short haul jet aircraft. A ceiling of 24,000 feet MSL could not be established for the airway structure because generally speaking the effective range of most navigational aids increases at higher altitudes, and with the number of such aids supporting the low altitude structure it is not feasible to prevent frequency interference up to this altitude. The comment directed toward positive control will be considered in Airspace Docket No. 64–WA–9 which is concerned with this subject.

4. The National Pilots Association endorsed the proposals.

5. The New Hampshire Aeronautics Commission agreed that the proposed two-layer structure was a step in the right direction, but objected to lowering of positive control.

6. The Soaring Society of America, Inc., requested additional time to evaluate the impact of the lowering of positive control on soaring operations.

is made in these Parts for soaring because it is a procedural problem and is governed by Part 91 of the Federal Aviation Regulations.

11. Youngstown Airways, Inc., endorsed the proposal but objected to the lowering of positive control.

All comments on the proposal to lower the floor of positive control will be considered in Airspace Docket No. 64–WA–9 which is concerned with this subject.

In consideration of the foregoing, Part 71 of the Federal Aviation Regulations is amended as hereinafter set forth, effective 0001 e.s.t., September 17, 1964.

This amendment is issued under the authority of sections 307(a) and 1110 of the Federal Aviation Act of 1958 (49 U.S.C. 1348(a) and 1510).

Airspace Docket No. 63–AL–29

Alteration of Continental Control Area

Adopted: December 24, 1964 **Effective: March 4, 1965**

(Published in 29 F.R. 19185, December 31, 1964)

On August 27, 1964, a Notice of Proposed Rule Making was published in the Federal Register (29 F.R. 12317) stating that the Federal Aviation Agency was considering an amendment to Part 71 of the Federal Aviation Regulations that would make applicable to Alaska changes in the vertical extent of the airway structure similar to those recently effectuated in the 48 contiguous States by Airspace Docket No. 63–WA–74 (29 F.R. 8471).

Interested persons were afforded an opportunity to participate in the rule making through the submission of comments. All comments received were favorable. Responses made to inquiries from air carriers included an assurance that airline jet operations would not be confined to the jet route structure.

In consideration of the foregoing, Part 71 of the Federal Aviation Regulations is amended as hereinafter set forth, effective 0001 EST, March 4, 1965.

These amendments are issued under the authority of section 307 of the Federal Aviation Act of 1958 (49 U.S.C. 1348).

Amendment 71—3

Alteration of Method of Describing Federal Airways

Adopted: March 19, 1965 **Effective: April 26, 1965**

(Published in 30 F.R. 3932, March 26, 1965)

The purpose of this amendment is to redescribe the method used to designate the floors of Federal airways.

Section 71.5(c)(1) provides that each Federal airway includes that airspace extending upward from 700 feet (until designated from 1200 feet or more) above the surface of the earth. Amendment 60–21 (26 F.R. 570) to Part 60 of the Civil Air Regulations, upon which Part 71 was based, stated that it was the intention of the FAA that in most cases the floors of airways would be established at least 500 feet below the minimum en route altitude and, in all cases, not below 1200 feet above the surface.

The designation of an altitude will refer to the floor of an airway segment between adjoining navigational aids or intersections unless a shorter distance is specified. In that case one or more altitudes will be designated for the appropriate number of miles with the last stated altitude terminating at the next navigational aid. For example, if the floors of an airway segment between points A and B were designated at 4800 feet above mean sea level for 30 miles, and 1200 feet above the surface to point B, with the floor of the following segment remaining at 700 feet above the surface until otherwise determined, the airway segments would be described as . . . A; 30 mi. 48 MSL, 12 AGL B; C; . . .

Where a control area is bounded by a main airway and corresponding segments of an alternate airway, it is the intention of the FAA to designate one floor applicable to the entire area.

Since the amendment is procedural in nature and imposes no additional burden on any person, compliance with the notice and public procedure provisions of Section 4 of the Administrative Procedure Act is unnecessary.

In consideration of the foregoing, Part 71.5(c) of Chapter I of Title 14 of the Code of Federal Aviation Regulations is amended, effective April 1, 1965, as hereinafter set forth.

This amendment is made under Sec. 307(a) of the Federal Aviation Act of 1958 (49 U.S.C. 1348).

Amendment 71–4

Control Zone Upper Limit

Adopted: June 21, 1968 **Effective: July 27, 1968**

(Published in 33 F.R. 9464, June 28, 1968)

The purpose of this amendment is to prescribe an upper limit for those Control Zones which underlie the continental control area, extending from the surface of the earth upward to the base of the continental control area.

The substance of this amendment was published as a Notice of Proposed Rule Making in the Federal Register on December 6, 1967, (32 F.R. 17488) and circulated as Notice 67–50.

Control zones are defined as normally circular areas, having a radius of five miles measured from the center of an airport, with extensions necessary to include instrument approach and departure paths. Control zones proceed upward from the surface of the earth to infinity and extend through Federal airways and the continental control area.

The primary function of control zones is to provide protected airspace for IFR operations between the airport surface and overlying controlled airspace. However, control zones also provide protected airspace for other local flight operations. Regulations are in effect which prohibit acrobatic flight, parachute jumping, or the operation of unmanned free balloons below 2,000 feet above the surface within a control zone. In addition, Special VFR operations are permitted within certain control zones, and Special VFR operations to or from "VFR-on-top" frequently require utilization of altitudes above the base of control areas or transition areas.

There is no requirement or justification for the existence of control zones above the base of the continental control area. Using the base of the continental control areas as the control zone upper limit would perpetuate the effect of existing Federal Aviation Regulations, and would also eliminate the unnecessary duplication of controlled airspace at the higher levels.

and overlying controlled airspace, but also the current ambiguity caused by different basic VFR weather minimums in the two types of controlled airspace.

A final comment suggested the word "instrument" be deleted in the description of a control zone, so that sentence would read in part ". . . and any extensions necessary to include (instrument) approach and departure paths." However, control zone extensions are, in fact, required for instrument operations rather than for VFR procedures, and the word "instrument" therefore, cannot logically be eliminated without altering the intended control zone description.

In consideration of the foregoing, Part 71 (§ 71.11) of the Federal Aviation Regulations is amended, effective July 27, 1968.

This amendment is made under the authority of Sections 307 and 313 of the Federal Aviation Act of 1958 (49 U.S.C. 1348 and 1354).

Amendment 71–5

Alteration of the Vertical Extent of Federal Airways

Adopted: May 27, 1969 **Effective: June 3, 1969**

(Published in 34 F.R. 8701, June 3, 1969)

The purpose of this amendment to Part 71 of the Federal Aviation Regulations is to alter the definition of the vertical extent of Federal airways in § 71.5(c)(1) to reflect the present structure of the airways.

Prior to 1961, all airways extended upward from 700 feet above the surface. Amendment 60–21 to the Civil Air Regulations (26 F.R. 570) stated that the FAA would raise the floors of all controlled airspace, where possible, to 1,200 feet or more above the surface. Thus, a pilot would need only to maintain an altitude of less than 1,200 feet above the surface to remain clear of designated airways. Standardizing the floor of controlled airspace at 1,200 feet above the surface would also reduce the complexity of charting. Since all airways have been redescribed in accordance with this policy as extending upward from 1,200 feet, or higher, above the surface, no federal airway exists which would be affected by this amendment. Therefore, action is taken herein to amend § 71.5(c)(1) so that, unless otherwise specified in the description of an airway, each airway will include that airspace extending upward from 1,200 feet above the surface.

Since this amendment is minor in nature and does not impose any additional burden upon the public, notice and public procedure hereon are unnecessary, and it may be made effective in less than 30 days.

In consideration of the foregoing, § 71.5(c)(1) of the Federal Aviation Regulations is amended, effective June 3, 1969, by striking the words "from 700 feet above the surface of the earth to," and substituting therefor "from 1,200 feet above the surface of the earth to".

This amendment is made under the authority of Sec. 307(a) of the Federal Aviation Act of 1958 (49 U.S.C. 1348), and Sec. 6(c) of the Department of Transportation Act (49 U.S.C. 1655(c)).

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of this amendment, and to the extent deemed necessary for purposes of this rulemaking action, is summarized as follows: On September 30, 1969, the FAA issued a Notice of Proposed Rule Making (69–41, 34 F.R. 15252) in which it defined the concept of a terminal control area. It was indicated In the notice that the FAA would issue separate notices proposing airspace configurations at 22 designated terminal areas. To insure that the FAA obtained maximum public participation in this undertaking, 22 separate public hearings were conducted at the designated areas to openly discuss these proposals with the local user groups. As a result of these public hearings and the views expressed in the written comments to the docket, which exceeded 1,800 in number, it became evident to the FAA that even though there was general agreement among individual users and user groups that something must be done to create a safer environment in the congested terminal areas, there was substantial disagreement over the best method to achieve this result.

Because of the public reaction to the proposal issued in Notice 69–41, the entire matter was carefully restudied. During the course of this study, careful analysis was made of the comments received from the public, to the end that a terminal area plan would be designed that would provide within the present air traffic control capability, the safest and most efficient terminal area environment possible.

On March 11, 1970, Notice 69–41B was issued (35 F.R. 4519). In that document the FAA explained in detail that because conditions vary sufficiently among the 22 hub airports, it would be inappropriate to have one set of rules applicable to all 22 locations regardless of the volume and complexity of the air traffic situation. For the purpose of designing operating rules that were better scaled to the individual needs of particular locations, the FAA divided the terminal control area proposed for these locations into two groups, designated as Group I and Group II.

At this point, it appears appropriate to consider one of the more common written complaints made to the FAA by commentators in response to Notice 69–41B. These commentators, in varying degrees, stated that the proposal indicated favoritism toward the airlines over general aviation. Favoritism is not involved since that Notice has been designed solely because of safety requirements. The Group I Terminal Control Areas represent 10 of the busiest locations in terms of aircraft operations and passengers carried, and it is necessary for safety reasons to have stricter requirements for operation within the terminal control areas at those locations than at other locations. The density of air traffic at all Group I locations consists of at least 300,000 operations per year, with more than 60 percent of this traffic involving air carrier operations. These Group I locations have a yearly minimum of 3.5 million enplaned passengers. It was noted in Notice 69–41, when referring to the Midair Collision Study Program, that 97 percent of the terminal area incidents occurred below 8,000 feet above ground level, and that the vast majority involved conflict between general aviation aircraft and either an air carrier, military or another general aviation aircraft. It was also highlighted that the mix of uncontrolled VFR and controlled IFR aircraft was a basic causal factor of these air traffic conflicts. Since at the Group I locations the density of air traffic is greater, and 60 percent of this traffic involves air carrier passenger operations, conflicts resulting from the above described mixture of air traffic have the greatest potential to cause a midair collision of catastrophic proportions. Accordingly, the FAA deemed it essential, at Group I locations, to impose maximum safety requirements. Thus, traffic will be segregated based on more stringent equipment and piloting requirements at the designated Group I Terminal Control Areas.

The Group II locations are generally less busy in terms of aircraft operations and passengers carried. There is small percentage of use by air carriers and a larger use by slower, more maneuverable aircraft at these locations. Based on these factors, and because the speed and operating characteristics are not as critical from an operational or air traffic standpoint, less stringent equipment and piloting requirements are needed to achieve a safe environment in Group II Terminal Control Areas.

Many of those who claimed that the FAA was favoring the airlines over general aviation linked the transponder requirement with the criticism of favoritism. As the FAA understands this criticism, it is claimed that since transponders and positive control go hand in hand, the light airplane operator will be required to unnecessarily purchase expensive equipment or refrain from operating within a terminal

target reinforcement offered by a transponder will obviously enhance safety. Also of importance is the fact that much of the so-called general aviation fleet is presently equipped with transponders and satisfactorily satisfies the equipment requirements for operating within a Group I Terminal Control Area.

Finally, the FAA, in an attempt to impose as little restraint as possible upon the operators of aircraft, deliberately separated out for more lenient operating requirements (including that of not requiring a transponder) 14 locations now designated as Group II Terminal Control Areas. The FAA will continue to study the 24 designated Group I and II locations and, if appropriate, may reclassify any of these locations or remove them from regulatory restraint.

One other general type criticism of the transponder requirement related to an opinion that the returns would saturate the ground radar. The fear was expressed that numerous secondary radar returns will block out the scope completely. This problem was anticipated, and both electronic and procedural techniques exist to avoid the occurrence of such an event.

The balance of critical comments to this Notice generally fall into four categories:

1. The lack of standardization of airspace configuration and the complexity of the Terminal Control Areas.

2. The imposition of an additional, unnecessary workload on the controller.

3. The compression of VFR traffic at the edges and under the Terminal Control Areas.

4. The preference for climb and descent corridors.

Each criticism will be responded to specifically hereunder.

1. *The lack of standardization of the airspace configuration and the complexity of the Terminal Control Areas.*

In general, pilots who made this type of comment were of the view that unless there is some standardization of the airspace configurations, a pilot may not be aware when he inadvertently penetrates a terminal control area, or know when to vary altitudes in order to stay beneath the floors of the terminal control area. It was asserted that a lack of standardization into two or three basic types will result in inevitable confusion and cause the entire operation to be too complex. In order to effectively design a safe and efficient terminal control area, it is necessary to tailor the airspace configuration to the particular needs of that area. Included in each consideration are the types of aircraft used and nature of air operations at the airports within a terminal control area, the adaptation of the facilities at the airports and the navigational aids available for use at that location, and the air traffic capability to meet the needs of the terminal control area concept. Since each of these factors may vary at different locations, the design of each terminal control area airspace configuration must vary. Accordingly, there can be little, if any, standardization in the airspace configurations. The FAA recognizes that as a result of tailoring the airspace to the specific needs of each location, some further complexity has been added to the terminal control area configuration. However, to ease the situation and assist the pilot, new local area charts will be published at each location where a terminal control area is designated. The sectional and en route charts will carry notations advising the existence of terminal control areas, and a description and graphic illustration will be inserted in the Airman's Information Manual. Also, the FAA is planning an educational program to familiarize aviation personnel with the terminal control area concept and operation.

2. *The imposition of an additional, unnecessary workload on the controller.*

In general terms, those making this type of comment expressed the fear that an additional controller workload would naturally result if VFR traffic was placed under positive control. This, it was asserted, would have the effect of eliminating most of the VFR traffic since the controller would first handle the IFR traffic. Again, it must be emphasized that the requirements for terminal control areas are established for reasons of safety. If the requirements of the system should prevent the present controller

of congestion will be further increased by the compression of traffic at the VFR entry points. The problem of compression at the sides and under the terminal control areas has been often mentioned and discussed, as has the problem concerning congestion at the entry points. If entry points are recommended, they will not necessarily be used as funneling points for VFR traffic nor will their use be mandatory. They will be published so the pilot can report with respect to them and aid the controller in maintaining a smooth flow of traffic. There will be some compression under the TCA shelves. However, every attempt will be made to establish the floors of terminal control areas as high as possible. Also, a 200-knot speed limit has been imposed in the airspace underlying the terminal control areas. This speed limit also applies to the free VFR corridors that may be designated through some of the areas.

4. *The preference for climb and descent corridors.*

Numerous individuals and organizations have recommended that the FAA adopt a "climb and descent corridor" concept rather than a "wedding cake" type configuration as the basic design figure for the airspace allocation. Those recommending adoption of the corridor concept have provided the FAA with suggested dimensions of the corridors. Some have recommended that the corridors take the form of very narrow extensions that start at the end of each airport runway and extend outwardly and up to certain limits. Others, in varying degree, have recommended corridors that start at the end of each runway and then fan up and out at various angles to a given distance from the airport. In some examples provided the FAA, the suggested corridors fan out to such a degree that the airspace described resembles that of a "wedding cake" profile. The FAA believes that much of the controversy involved in this subject has resulted from involvement with semantics rather than approaching the problem head-on to obtain a solution. What is really necessary is to allocate that amount of airspace necessary at a particular locality to implement the terminal control area concept. After study, it is concluded that the overall airspace description of a terminal control area may be best described as a "corridor-cake" type configuration, because at any given location the airspace allocation may be part wedding cake and part corridors or, for that matter, any type of airspace configuration that will satisfy the requirements of a terminal control area. It is the view of the FAA that the "corridor-cake" concept will provide the necessary flexibility and capability to enable air traffic control to handle a greater variety of traffic mix without suffering a drastic loss of capability. If the FAA adopted a rule that only "climb and descent corridors" would be used in a terminal control area, it would result in a reduced air traffic control capability to maintain an efficient flow of air traffic and it would not provide the airspace necessary to effectively and efficiently satisfy the need for vectoring, sequencing and metering the flow of air traffic at many of the 24 high density terminal areas under consideration. Most certainly, the use of corridors alone would result, in a drop in the capacity for most terminal areas because of the different performance characteristics of the various aircraft that would be using the corridors.

Several commentators questioned the requirement that helicopters have operable VOR or TACAN receivers since these aircraft operate in a unique manner and at low altitudes where no signal coverage exists. Because of the uniqueness of the helicopter and the manner in which it is operated, the proposal has been modified to exempt helicopters from the requirement.

Interested persons have been afforded an opportunity to participate in the making of these amendments, and due consideration has been given to all matters presented.

In consideration of the foregoing, Parts 1, 71, and 91 of the Federal Aviation Regulations are amended, effective June 25, 1970.

Sections 307(a) and (c), and 313 of the Federal Aviation Act of 1958; (49 U.S.C. 1348(a) and (c), 1354(a), Section 6(c) of the Department of Transportation Act; (49 U.S.C. 1655(c)).

Interested persons have been afforded an opportunity to participate in the making of these amendments by a Notice of Proposed Rule Making (Notice 69–27) issued on June 13, 1969, and published in the Federal Register on June 18, 1969 (34 F.R. 9570). Due consideration has been given to all comments presented in response to that Notice.

Some comments recommended that system errors and route widths should be measured from the navigational facility from which the navigation signal emanates. In response to this comment, this amendment contains route width definitions based on distances measured from the reference navigational facility rather than distances measured from the tangent point as in the Notice. This difference is reflected in the table in § 71.6(b). While the basis for measuring route width has changed from the Notice, the actual route widths under this amendment will be approximately the same as those proposed in the Notice.

One comment stated that the proposed rule should be amended to reflect the particular characteristics of short takeoff and landing aircraft. If experience later demonstrates that special procedures or route widths should be adopted for particular aircraft classes, this may be done. However, at the present time it is believed that a single rule of general applicability is appropriate.

One comment expressed concern that distance measuring equipment saturation and deterioration would become significant with 50 interrogators served by a single transponder, and stated that complete breakdown of service could occur with 120 interrogators being served by a single transponder. Distance measuring equipment operated by the FAA is designed so that more than 100 interrogators can be served by a single transponder without deterioration in service. Best estimates of expected transponder workload indicate a probable maximum of less than 50 aircraft interrogating a transponder at one time. Further, routes will be established and designated so as to minimize the load on any particular facility.

One comment referenced draft advisory circulars on area navigation and stated that any requirements in this area should follow the normal procedures for rule making rather than being published in Advisory Circulars. It was never contemplated that any procedure other than full notice and public procedure would be used in this or any other regulatory area. So far as equipment requirements are concerned, Advisory Circular 90–45, "Approval of Area Navigation Systems for Use in the U.S. National Airspace System," clearly states (par. 2.a.(3)) that rule making will be considered to specify types of airborne equipment required and the accuracy required of that equipment for use in the air traffic system. So far as airspace assignment is concerned, route designation will also follow rule making procedures.

Several comments suggesting detailed technical changes to the Notice were received and have been accepted and incorporated herein.

In other respects, for the reasons stated in the preamble to the Notice, the rule is adopted as prescribed herein.

In consideration of the foregoing, Parts 71 and 75 of the Federal Aviation Regulations are amended, effective July 22, 1970.

These amendments are issued under the authority of Sections 307(a), 313(a), and 1110 of the Federal Aviation Act of 1958 (49 U.S.C. 1348(a), 1354(a), and 1510), and Section 6(c) of the Department of Transportation Act (49 U.S.C. 1655(c)).

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Interested persons were afforded an opportunity to participate in the proposed rule making through the submission of comments. No comments were received in response to the notice.

In consideration of the foregoing, Part 71 of the Federal Aviation Regulations is amended, effective 0901 GMT, April 30, 1970,* as hereinafter set forth.

This amendment is made under the authority of Section 307(a) the Federal Aviation Act of 1958 (49 U.S.C. 1348) and Section 6(c) of the Department of Transportation Act (49 U.S.C. 1655(c)).

Amendment 71–8

ATC Transponder and Automatic Pressure Altitude Reporting Equipment Requirements, and Conforming Amendments

Adopted: May 25, 1973 **Effective: July 20, 1973**

(Published in 38 F.R. 14672, June 4, 1973)

The purpose of these amendments to Parts 71 and 91 of the Federal Aviation Regulations is to require aircraft operating in certain designated controlled airspace to be equipped with ATC (Air Traffic Control) transponder and associated pressure altitude reporting equipment, and to make related conforming amendments.

These amendments are based upon Notice 69–9, published in the Federal Register on March 14, 1969 (34 F.R. 5259), Supplemental Notice 72–12, published in the Federal Register on April 15, 1972 (37 F.R. 7527) and Supplemental Notice 72–12A, published in the Federal Register on June 24, 1972 (37 F.R. 12508). These Notices, in turn, were based on Advance Notice of Proposed Rule Making 65–9, published in the Federal Register on April 29, 1965, which included long term proposals concerning the possible use of improved ATC transponders in the National Airspace System. In addition, these amendments include conforming amendments based on the above Notices and on Notice 71–10 published in the Federal Register on March 30, 1971. Interested persons have been afforded an opportunity to comment on the amendments contained herein, and all relevant matter submitted has been considered in the issuance of these amendments.

I. Background of these amendments.

Notice 69–9, issued March 3, 1969, proposed to require that all aircraft operating in certain designated controlled airspace be equipped with an improved radar beacon transponder having a Mode 3/A 4096 code capability, and having a Mode C automatic altitude reporting capability (e.g. automatic pressure altitude reporting equipment). The objective of the proposal was to improve air traffic control system effectiveness through additional IFR beacon tracking and automatic altitude reporting capability. The proposal was also designed to reduce the mid-air collision potential by requiring certain VFR flights operating in selected airspace to respond automatically to interrogations by transmitting position and altitude. Specifically, Notice 69–9 proposed that a 4096 code Mode 3/A transponder and Mode C automatic altitude reporting capability be required, effective January 1, 1973, of both VFR and IFR aircraft in controlled airspace at or above 10,000 feet MSL (mean sea level) in the 48 contiguous States; in positive control airspace; and in specified terminal airspace.

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*This effective date was extended from April 2, 1970 to April 30, 1970, by Airspace Docket 70–WA–11 issued March 30, 1970 (35 F.R. 5465, April 2, 1970).

proposals pertaining to the airspace and conditions in which the improved transponder would be required. The Supplemental Notice differed from Notice 69–9 in that it proposed to require the improved transponder in positive control areas and controlled airspace above 12,500 feet MSL for en route operations, excluding airspace less than 1,500 feet AGL (above ground level). The proposed use of the improved transponder in terminal airspace was also relaxed under the Supplemental Notice, since, while all aircraft, including helicopters, would be required to have the improved transponder for operations in both Group I and II TCAs, pilots operating VFR and not desiring separation service would not need to communicate with ATC in the Group II TCAs. In 42 other ARTS III equipped "terminal areas" any aircraft being provided separation service would not, under the Supplemental Notice, be required to be transponder equipped. Authority for the granting of deviations by ATC was also proposed. The other significant relaxation in the Supplemental Notice extended the implementation date to January 1, 1974, for terminal airspace and June 1, 1975, for en route airspace.

Paralleling this background was a separate Notice of Proposed Rule Making (Notice 71–10 which proposed to provide new technical standards for airborne ATC transponder equipment and to require that transponders in aircraft meet TSO standards. This Notice was published in the Federal Register on March 30, 1971 (36 F.R. 5853) and was followed by regulations published on December 27, 1972, amending parts 37, 43, 91, 121, 127, and 135 of the Federal Aviation Regulations. The amendment to Part 91 added, among other requirements, a new § 91.24, requiring ATC transponder equipment installed after January 1, 1974, or used after July 1, 1975, to meet the standards in TSO–C74b or any class of TSO–C74c, as appropriate, except that the Administrator may approve the continued use of TSO–C74 or TSO–C74a equipment after July 1, 1975, under certain conditions.

The amendment issued herein pulls these two separate regulatory programs together in § 91.24 and makes conforming changes in Part 91 to ensure consistency among the several transponder requirements already in that Part. Specifically, the regulatory language in current § 91.24 is redesignated as § 91.24(a), and the appropriate cross reference to § 91.24 in § 91.177 is amended accordingly to refer to § 91.24(a) only. The requirements proposed in Notice 72–12 concerning the need for the improved transponder and associated automatic pressure altitude reporting equipment in specified airspace are issued hereunder in new § 91.24(b) so that the relationship between these requirements (and their respective dates of compliance) and the TSO standards and related requirements (and their respective dates of compliance) in § 91.24(a) can be more easily seen and understood by aircraft operators. The ATC deviation authority proposed in Notice 72–12 is contained, in shortened form, in new § 91.24(c). In order to prevent apparent conflicts between the other transponder requirements currently in Part 91 and the amendments contained in § 91.24, appropriate editorial cross references to § 91.24 are made in §§ 91.90, 91.97, and 91.99. No substantive change is made by these editorial amendments. The "terminal area" concept in Notice 72–12 is issued, in slightly relaxed form, under the name "Group III Terminal Control Area" (see discussion below under "Miscellaneous Comments").

II. Summary of requirements added by this amendment.

The regulations should be consulted for the details of the new requirements. The following summary is provided only to present an outline of the regulations as changed by this amendment.

This amendment specifies the controlled airspace within which two types of equipment are required. These are (i) a Mode 3/A 4096 code transponder, and (ii) automatic pressure altitude reporting equipment. No change is made to the floor or other configuration of any controlled airspace in this amendment. This amendment does not designate new terminal control areas.

After the pertinent compliance dates of these requirements (see discussion under paragraph III below), the new equipment is required in the following airspace under this amendment:

A. All controlled airspace of the 48 contiguous States and the District of Columbia that is above 12,500 feet MSL, excluding the airspace at and below 2,500 feet AGL. Gliders are excluded from this requirement up to 18,000 feet MSL, which is the floor of the positive control area.

II Terminal Control Areas. These include Cleveland, Denver, Detroit, Houston, Kansas City, Las Vegas, Minneapolis, New Orleans, Philadelphia, Pittsburgh, Seattle, and St. Louis. These designations could be accomplished by separate rule-making action with notice and public procedure. As in the case of Group I Terminal Control Areas, there is no general exception (other than for helicopters, as mentioned above) to the requirement for the new equipment in Group II Terminal Control Areas. Unlike Group I Terminal Control Areas, however, an ATC authorization prior to entry is not required for VFR aircraft that do not land or takeoff within the Group II Terminal Control Area. This provides needed flexibility for VFR flights that do not wish to communicate with or receive separation service from an ATC facility, and that are transiting the Group II Terminal Control Area without landing or taking off. The altitude data provided by all aircraft will assist controllers in vectoring aircraft receiving separation service clear of aircraft that are not receiving separation service.

3. *Group III Terminal Control Areas.* As stated in Notice 72–12, 42 locations are being considered for designation as "Terminal Areas" (herein redesignated as "Group III Terminal Control Areas"). These locations include Albany, Albuquerque, Baltimore, Birmingham, Buffalo, Burbank, Charlotte, Cincinnati, Columbus, Dayton, Des Moines, El Paso, Hartford, Honolulu, Indianapolis, Jacksonville, Louisvllle, Memphis, Milwaukee, Nashville, Norfolk, Oklahoma City, Omaha, Ontario, Orlando, Phoenix, Portland, Providence, Raleigh-Durham, Rochester, Sacramento, Salt Lake City, San Antonio, San Diego, San Juan, Santa Ana/Long Beach, Shreveport, Syracuse, Tampa, Tucson, Washington-Dulles. As in the case of Group II Terminal Control Areas, these Group III Terminal Control Areas will be designated in separate rule-making actions with notice and opportunity for public participation. Unlike Group I and Group II Terminal Control Areas, the new equipment is not required if two-way radio communications are maintained within the terminal control area between the aircraft and the ATC facility, and the pilot provides position, altitude and proposed flight path prior to entry.

III. Relation to TSO requirements: Chronology of compliance dates.

Since the requirements in this amendment are closely related to the recently adopted transponder requirements in § 91.24, particularly with respect to compliance dates, a combined summary of the chronological effect of the regulations is furnished. Some repetition of the above discussion exists in order to permit demonstration of the combined effect of the compliance dates in current § 91.24 and those in this amendment. This summary contains only the broad outline of the requirements. The regulations should be consulted for the details of these requirements and for the exceptions and deviation provisions in the regulations. The following requirements come into effect after the following dates:

1. After January 1, 1974, § 91.24(a) prohibits installation of a transponder in an aircraft (not previously so equipped) unless that transponder has been shown to meet specified TSO standards. This applies only to U.S. registered civil aircraft, and thus does not apply to foreign registered aircraft or to public aircraft such as military aircraft of the United States. This installation requirement applies regardless of the airspace to be used by the aircraft. It does not involve automatic pressure altitude reporting equipment. Transponders installed on or before January 1, 1974, in any aircraft, or after that date in aircraft that were previously transponder equipped, may continue to be used, in U.S. registered civil aircraft, without meeting TSO standards, through July 1, 1975.

2. After July 1, 1974, § 91.24(b) requires that aircraft operating in Group I Terminal Control Areas be equipped with Mode 3/A 4096 code transponders and associated automatic pressure altitude reporting equipment. Unlike § 91.24(a), discussed above, this applies to all aircraft operators including foreign and public aircraft, and is thus not limited to U.S. registered civil aircraft. July 1, 1974, is, therefore, the first date after which aircraft having transponders that do not have both 4096 codes and compatibility with an encoder (that must also meet § 91.36 under the current regulations) are excluded from operation in Group I TCAs (subject to the exceptions and deviation authority in the regulations), regardless of the date of installation of the transponder in the aircraft. Transponders meeting the specified TSO standards will be in compliance with the transponder aspect of this requirement for Group I TCAs.

date after which aircraft having transponders that do not have both 4096 codes and compatibility with all encoder (that must also meet § 91.36) are excluded from operation in Group II and Group III TCAs (subject to the exceptions and deviation authority in the regulations), regardless of the date of installation of the transponder in the aircraft. Transponders meeting the specified TSO standards will be in compliance with the transponder aspect of this requirement for Group II and Group III TCAs.

4. After July 1, 1975, two new requirements come into effect. The first is the requirement in § 91.24(a) that any transponder used in any U.S. airspace must have been shown to meet TSO standards regardless of the date of installation of the transponder. After that date transponders not shown to be in compliance need not be removed from the aircraft but may not he used, in any U.S. airspace, regardless of installation date. This regulation affects U.S. registered civil aircraft only. It does not require automatic pressure altitude reporting equipment. The second requirement effective after July 1, 1975, is the requirement in § 91.24(b) that Mode 3/A 4096 code transponders and automatic airborn altitude reporting equipment be used in all controlled airspace of the 48 States and the District of Columbia, above 12,500 feet MSL (and above 2,500 feet AGL). U.S. registered civil aircraft must comply with the transponder aspect of this operating requirement by showing compliance with TSO standards (under § 91.24(a)), while foreign and public aircraft would comply if equipped with any Mode 3/A 4096 code transponder having compatibility with an encoder (that must also meet § 91.36).

IV. General comments concerning costs and benefits of improved transponders and associated automatic pressure altitude reporting equipment.

Numerous comments of a general nature were received stating that the cost of the proposed rule changes could not be justified by the benefits therefrom. These general comments stated that requiring improved transponders and associated automatic pressure altitude reporting equipment in the specified airspace goes beyond the point of diminishing returns, is not justified by near midair collision statistics, conflicts unnecessarily with the FAA's statutory duty to encourage the development of aviation, and will be unnecessarily damaging to the less sophisticated segments of general aviation that now use positive control airspace, all without a corresponding significant benefit to air traffic control system safety or efficiency. While certain of these comments conceded that automatic altitude reporting had some value in heavily used airspace around airports, nearly all of these comments stated that the traffic volume in en route airspace, particularly in the western part of the United States, is far less than that needed to justify the required use of such equipment by all users of that airspace.

In response to these general comments, it is noted that significant relaxations have been made in these amendments when compared with those proposed in Supplemental Notice 72–12. After considerable study, the FAA believes that the air traffic control safety and efficiency benefits from these amendments, as changed from the Notice, outweigh the costs on affected users, that these benefits will become far greater if projected air traffic growth rates are reasonably accurate, while at the same time the costs of compliance will decrease as manufacturers respond to the need for the new equipment. It is also probable that the overall costs paid by all airspace user for further delay in setting in motion the regulatory basis for altitude reporting capability will exceed the costs of acting now to anticipate, rather than react to, the result of increasing traffic demands. In short, it is believed that the compliance times specified herein are reasonable, and that nearly all persons who opposed the scope and timing of the regulations proposed in Notice 72–12 would be even less satisfied with solutions made necessary by further delay in implementing the amendments issued herein.

V. Specific requests for relaxation of Notice 72–12.

Several requests for relaxation of Notice 72–12 were received. These included the following specific arguments:

1. The compliance times are too restrictive and should be relaxed. The FAA agrees in part and has set back the compliance date for Group I Terminal Control Areas from January 1, 1974, to July

2. The benefits of an automated air traffic control system should lead to fewer restrictions, not more. Specifically, it is argued that the benefits otherwise derived from NAS en route stage A and the automated radar terminal systems should allow controllers to handle increased traffic without the need for automatic altitude reporting transponders. It is correct that the benefits of improvements in ground based equipment should help to retard the rate at which increasing restrictions are placed on aircraft not having the improved transponder and associated automatic pressure altitude reporting equipment. However, automated ground equipment is not viewed as a substitute for automatic airborne equipment in the airspace covered by this amendment, in view of the current and projected air traffic control workload in such airspace. Because of this traffic density, and as stated in Notices 69–9 and 72–12, the implementation of an automatic pressure altitude reporting requirement provides the following benefits to the ATC system; improved ATC system safety by automatically displaying the altitude of all aircraft operating in selected airspace; reduced midair collision potential through eliminating previously unknown integral data; reduced volume of communication by eliminating the need for oral altitude reports; improved utilization of airspace through continuous altitude data on climbing and descending aircraft; increased effectiveness through greater controller selectivity in viewing targets: and reduced number of traffic advisories or avoidance vectors during the provision of radar service.

3. The requirement for 12-hours' advance notice for operation without an improved transponder and automatic altitude reporting equipment is an unnecessary burden, particularly in view of the benefits to the system safety and efficiency from improvements in ground equipment aided by the use of automatic altitude reporting by other aircraft. The FAA has reconsidered this aspect of the proposed regulations and agrees that the advanced notice provision can be reduced to four hours. This will benefit pilots since proposed arrival and departure times can be estimated more accurately, and will permit ATC to make a more realistic assessment of the traffic expected at the proposed time of operation. Weather, staffing, and related factors are more predictable four hours in advance than they would be if a 12-hour advance notice period were required. The FAA does not believe that the requirement for some advance notice should be eliminated. Without advance notice, controllers would be required to approve or deny entrance to specified airspace on a moment's notice. It is believed that this would lead to excessive communication and additional workload to the detriment of ATC services available to transponder equipped aircraft. The FAA points out that the four-hour provision is significantly less restrictive than the four-day advance notice required under § 91.97(b) for operation in a positive control area by non-conforming aircraft and that, for the first time, a deviation authority is provided for terminal control areas. It should be noted, however, that the deviation authority in § 91.24(c) applies only to the provisions of § 91.24(b) concerning the need for Mode 3/A 4096 code transponders and associated automatic pressure altitude reporting equipment in the specified airspace. The deviation authority does not apply to the prohibition in § 91.24(a) against the use of transponders that do not meet TSO standards, in any airspace, and does not apply to the installation of nonconforming transponders. Thus, while ATC may permit an aircraft with a malfunctioning transponder or with no transponder to operate in the specified airspace, ATC may not permit the use in that airspace (or in any other airspace) of a transponder in a U.S. registered civil aircraft that has not been shown to meet TSO standards as prescribed in § 91.24(a) after the dates specified in that paragraph.

4. En route airspace does not require automatic pressure altitude reporting equipment for all aircraft because (a) altitude changes are less frequent than in terminal airspace, and (b) en route communications are less congested than terminal airspace, so that there is sufficient time for verbal altitude reporting. Leaving aside the question of which precise threshold altitude to select (see discussion below), the FAA does not agree with the comment with respect to en route airspace at altitudes used by high performance aircraft. This is due to the combined effect of three factors: The high closure rates now possible at these en route altitudes, the projected increases of traffic at these altitudes, and the resulting decreased acceptability of reliance on verbal altitude reporting as the only source of altitude information at these altitudes.

agrees with this comment and has incorporated this change in § 91.24(b) and (b)(4).

6. This amendment, like the current regulation (§ 91.90), should not apply, within terminal control areas, to IFR flights operating to or from a secondary airport in the TCA, or to IFR flights operating to or from an airport outside, but close to, the TCA when the commonly used procedures for that airport require flight in the TCA. The FAA does not believe that the current and projected air traffic control problems in terminal control areas justify continuing these two blanket exceptions. However, where air traffic control can be safely and efficiently exercised without automatic pressure altitude reporting equipment, or without a transponder, deviations may be issued on an individual or continuing basis. The FAA believes that this provides the most flexible and equitable means of balancing the continuing need for aircraft utility at minimum expense to airspace users against the need for assuring continued air traffic control safety and efficiency under increasing ATC workloads.

7. The requirement for an ATC authorization prior to entry into a Group I or Group II Terminal Control Area makes automatic altitude reporting unnecessary. The FAA disagrees with this comment as applied to Group I and Group II Terminal Control Areas. While obtaining a prior authorization involves communication that may advise ATC of an aircraft's altitude when it enters the TCA, it does not continuously advise ATC of the altitude of aircraft within the TCA. For this latter purpose, verbal altitude reporting is not considered acceptable as the sole means of conveying altitude information in Group I and Group II TCAs.

8. The en route requirement for a transponder between 12,500 feet MSL and the floor of the positive control area would virtually eliminate certain glider operations vital to the science, sport, and art of soaring, and would drastically limit the altitude available for safe motorless flight over hostile terrain. Further, it is argued that the extremely variable nature of the meteorological conditions needed to support en route soaring operations makes it highly impracticable to require the advance granting of a deviation. The FAA agrees with these comments, and has also determined that glider operation, at the affected en route altitudes, is still infrequent enough not to present a significant collision hazard. On balance, it is believed that gliders operating between 12,500 feet MSL and 18,000 feet MSL (the floor of the positive control area) may safely be excepted from these amendments. However, gliders, like other aircraft, are still subject to the requirements to obtain a deviation under § 91.97(b) for operation without a transponder in the positive control area.

9. The en route operation of balloons should be excepted from this amendment. The FAA disagrees. Considering the fact that balloons, unlike gliders, have positive and predictable altitude control, and can, therefore, plan in advance the altitude of their en route operations, and considering the fact that balloons, while highly visible themselves, cannot take rapid action to avoid other aircraft in conditions of limited visibility, the FAA believes that it is reasonable not to except balloons as a class but rather to treat each case under the deviation provisions of § 91.24(c). This comment is, therefore, not accepted.

10. The current exception for helicopters should be retained. The FAA agrees to the extent that helicopters are excepted from these amendments when operating below 1,000 feet AGL in Terminal Control Areas under a letter of agreement.

VI. Comments concerning the safety of the proposed regulations.

Public comments were received concerning the safety implications of the proposals in Supplemental Notice 72–12. These included the following:

1. The provisions of Notice 72–12 significantly reduced the potential safety enhancement in the more restrictive proposals in Notice 69–9 and the terms of that earlier notice should be the goal to be achieved. The FAA believes that the amendments contained herein are fully sufficient to meet current safety requirements and that further restrictions are not justified at this time.

2. The proposed regulations will decrease safety during poor weather conditions by denying superior airport facilities to general aviation aircraft that are not equipped as required. The FAA disagrees. This

VII. Comments suggesting alternatives.

Public comments were received concerning alternatives to the proposed regulations. These included the following:

1. Rather than require an altitude reporting transponder, FAA should encourage VFR pilots to request radar advisories and require controllers to honor the request. This comment indicates a fundamental misconception of the reason for this amendment. Automatic pressure altitude reporting equipment is not it substitute for ATC functions such as the issuing of traffic advisories. The value of continuous automatic pressure altitude reporting lies in its ability to make ATC services and functions more effective to the pilot.

2. Terminal air traffic should be regulated by ingress and egress corridors, required reporting points, and other meals before "jumping to sophisticated equipment for all airspace users." The FAA believes that the ingress and egress corridors, even if adopted, would not respond to the need that resulted in this amendment. This is the need for continuous, accurate, current altitude information under dense traffic conditions. This workload is just as likely to occur in the case of traffic, densely travelled corridors as well as in the case of traffic elsewhere in terminal airspace. Corridors are an appropriate consideration in the configuration of airspace for overall traffic flow purposes, but they do not solve the problem of air traffic management addressed by this amendment.

3. The FAA should wait until the aviation industry, on its own, develops reasonably priced transponder and automatic pressure altitude reporting equipment. The FAA believes that the aviation industry has the capability of responding within the deadlines prescribed, and that the effect of delayed rule making will be indefinite, and in the long run more costly, delay in anticipating and meet the demands of projected air traffic growth.

4. There should not be a mandatory requirement for automatic pressure altitude reporting equipment "before the system can demonstrate its ability to perform well without it." This comment implies a policy of risking deterioration in the system before requiring the improved equipment. Such a policy is not an acceptable approach to anticipating and preventing impediments to the continued improvement of the air traffic control system that is needed to meet the demands of increasing numbers of users of the airspace.

VIII. Miscellaneous comments.

The following comments were received on issues not treated above:

1. The name "terminal area" as proposed in Notice 72–12 is confusing, needs clarification, is not clearly distinct from the concept of a TCA, and is hard to distinguish from the "airport traffic area" concept. The FAA agrees with these comments and believes that there is no significant benefit to the introduction of still another regulatory term (in addition to "airport traffic area", "control zone," and "terminal control area") to describe the airspace around an airport. For this reason, the term "Group III Terminal Control Area" is adopted, in place of "terminal area." No increased regulatory burden results from this name change. To ensure that there is no inadvertent increased burden from this name change, the designation terminology of "terminal control area" in § 71.12 is amended to make it clear that equipment rules alone (that is, without operating rules and piloting rules) may be issued in terminal control areas. That section is also editorially changed to include Group III Terminal Control Areas. Further ensuring that no regulatory requirement is added as a result of this name change is the fact that this amendment permits aircraft not equipped with improved transponder equipment to operate in these areas if two-way radio communications are maintained in the TCA and the pilot provides position, altitude, and proposed flight path prior to entering the TCA.

2. The FAA should note that no TSO is proposed for the altitude encoder itself. The FAA appreciates this comment and believes there may be a need for additional rule making to further control the quality

Amendment 71–9

Elimination of Military Climb Corridor References

Adopted: June 19, 1975 **Effective: July 28, 1975**

(Published in 40 F.R. 27015, June 26, 1975)

The purpose of these amendments to Parts 71 and 73 of the Federal Aviation Regulations is to delete the references to Restricted Area Military Climb Corridors.

The first Restricted Area Military Climb Corridor was designated at the Portland International Airport on August 1, 1958 in Amendment 230 to Part 608 of the Civil Air Regulation (23 F.R. 5707). During the next seven years 42 of these corridors were designated. Their purpose was to facilitate air defense missions of the Air Defense Command at locations where the lack of radar coverage or other limitations precluded the development of satisfactory departure procedures. Since establishment of the military climb corridors, there has been an extensive change to the Air Traffic Control (ATC) system. Radar coverage has increased dramatically, Area Positive Control has been lowered to 18,000 feet and the entire ATC system has been improved significantly. As a result, the original need for military climb corridors no longer exists and all such corridors have been cancelled at the request of the military. The last military climb corridor at Oscoda, Michigan, Wurtsmith AFB, was cancelled effective April 14, 1970 (35 F.R. 6047). Therefore, reference to Military Climb Corridors is no longer required and is hereby deleted from the regulations.

Since these amendments are nonsubstantive in nature in that they merely remove references in the regulation to airspace assignments which no longer exist, notice and public procedure are unnecessary.

Authority: [Sections 307, 313(a) of the Federal Aviation Act of 1958, 49 U.S.C. §§ 1348 and 1354(a); Section 6(c) of the Department of Transportation Act (80 Stat. 937, 49 U.S.C. § 1655(c))].

In consideration of the foregoing, Parts 71 and 73 are amended, effective July 28, 1975.

Amendment 71–10

Airport Radar Service Areas

Adopted: February 27, 1985 **Effective: March 14, 1985**

(Published in 50 FR 9252, March 6, 1985)

SUMMARY: This action adopts certain National Airspace Review (NAR) recommendations concerning air traffic rules governing flight operations within airspace designated as "airport radar service area (ARSA)." Specifically, this action defines "airport radar service area" and establishes air traffic rules for operation within such an area. The initial airport radar service areas are established under separate rulemaking actions in Airspace Docket No. 84–AWA–31 for the Robert Mueller Municipal Airport, Austin, TX; the Port Columbus International Airport, Columbus, OH; and the Baltimore/Washington International Airport, Baltimore, MD. Future notices will propose airport radar service areas for other locations.

FOR FURTHER INFORMATION CONTACT: Mr. William C. Davis, Airspace-Rules and Aeronautical Information Division, ATO–200, Federal Aviation Administration, 800 Independence Avenue, S.W., Washington, D.C. 20591, telephone (202) 426–8783.

SUPPLEMENTARY INFORMATION

by Federal Aviation Regulations (FAR) and FAA directive-reducing complexity and simplifying the ATC system.

(3) To revalidate ATC services within the National Airspace System with respect to state-of-the-art and future technological improvements. This will entail a complete review of separation criteria, terminal control area/terminal radar service area (TCA/TRSA) requirements, instrument flight rules/visual flight rules (IFR/VFR) services to the pilot, etc.

Organizations participating in the NAR task group are:

Federal Aviation Administration
Department of Defense
Air Transport Association
National Business Aircraft Association
Regional Airline Association
Aircraft Owners and Pilots Association
Experimental Aircraft Association
Helicopter Association International
Air Line Pilots Association

Nar Recommendations Pertaining to the Proposal

The comprehensive plan contains an administrative structure and detailed task assignments which resulted in recommendations to the FAA, including the NAR Task Group 1–2.2 recommendations set forth below.

NAR 1–2.2.1 REPLACE TRSA's WITH AIRPORT RADAR SERVICE AREAS (ARSA's)

"The Task Group recommends that the current Terminal Radar Service Area (TRSA) program—Airspace and Services—be discontinued. The Task Group further recommends that the concept identified herein as [airport radar service area (ARSA)] be implemented as replacement for the TRSA program in accordance with the recommendations to follow."

(The task group recommendations referred to the ARSA concept as "Model B Airspace." References to "Model B Airspace" have been replaced with the term "ARSA" for consistency with the terminology used in the FAA rule.)

NAR 1–1.2.2 ARSA SIZE AND OPERATING REQUIREMENTS

"The Task Group recommends that the physical dimensions of [an ARSA] shall be a 10 NM radius capped at 4,000 feet height above airport (HAA) from the primary airport. This airspace shall extend down to 1200 feet above the surface except that an inner core with a 5 nautical mile radius shall extend down to the surface. Except for aircraft departing from satellite airports/heliports within [an ARSA], all aircraft shall establish two-way radio communications with ATC prior to entering [an ARSA]. Aircraft departing satellite airports/heliports within the surface area of [an ARSA] shall establish two-way radio communications with ATC as soon as possible. Pilots must comply with approved FAA traffic patterns when departing these airports."

NAR 1–2.2.3 OUTER AREA LIMITS AND OPERATING REQUIREMENTS

"The Task Group recommends that the outer limit of [the area outside of the ARSA in which ARSA services are provided by an ARSA facility] be the same dimensions as the radar/radio coverage within each approach control's delegated airspace. While strongly encouraged, two-way radio communications is *not* a VFR requirement in [this airspace] and aircraft are not restricted from entering/transmitting this airspace."

NAR 1–2.2.6 AIRSPACE DESIGNATION CRITERIA

"The Task Group recommends that, excluding TCA locations, all airports with an operational airport traffic control tower and currently contained within a TRSA serviced by Level III, IV, or V radar approach control facility shall have [an ARSA] designated; unless a study indicates that such designation is inappropriate for a particular location. Any other location serviced by a radar approach control facility may be considered as a candidate location [an ARSA] on the basis of a thorough staff study considering, but *not limited to*, the following:

1. Traffic mix, flow, density, and volume.
2. Airport configuration, geographical features and adjacent airspace/facilities.
3. Collision risk assessment.
4. ATC capabilities to provide [ARSA] services to the users at maximum benefit and minimum cost.

All proposed [ARSA] actions shall be subject to regional and headquarters approval. Military operated facilities will process requests through appropriate military and FAA channels. Any [ARSA] location which fails to meet the establishing criteria for its respective location for more than 12 consecutive months, shall be subject to a regulatory review to terminate the [ARSA] designation."

NAR 1–2.2.7 CHARTING

"The Task Group recommends for further consideration by Task Group 1–6 that all [ARSA's] be charted, and that either a visual or narrative method of identifying the [area in which ARSA services are provided by an ARSA facility] be undertaken."

NAR 1–1.2.8 EDUCATION

"The Task Group recommends the aviation community be made aware of [the ARSA program] by educational programs to support ATC operational and procedural information, phraseology, practices, and the desirability of voluntary participation. Specifically, it is recommended:

1. All FAA pilot exams and appropriate textbooks must contain a significant amount of questions and information concerning radar operation in terminal areas. Specifically, operations and procedures be included in written and practical tests for pilot certification, ratings, and reviews.
2. Specific questions and answers must be required on all flight reviews and other appropriate occasions (air carrier initial and recurrent proficiency training, pilot proficiency exams, biennial flight review, etc.) to assure that users in every aviation community have shown a current understanding of radar terminal areas and their use of these areas.
3. The FAA develop and fund a traveling air traffic team to speak to pilot groups on operations within the National Airspace System; i.e., [ARSA]. Emphasis should be given to flight instructor contact.
4. An advisory circular dealing with [the ARSA program] be published to include well presented, up-to-date information on operations in terminal airspace and that this advisory circular be given the widest possible dissemination to aviation users and organizations.
5. The Airman's Information Manual (AIM) be distributed free of charge to all fixed-base operators (FBO's) at all public use airports.
6. FAA Public Affairs Office develop and promote through the general news media, aviation awareness of FAA services and publications available to the pilot and general public.
7. Facts about terminal airspace in some form of questionnaire be developed and distributed by the FAA to appropriate agencies (licensed pilots, fixed-base operators, business organizations, etc.). This questionnaire could be a public relations effort, advisory circular, or included in the Airman's Information Manual.
8. FAA continue to make available to interested pilot groups training or other audio-visual aids that deal with terminal radar operations."

A copy of the task group's report is in the public docket.

confirmed. Informal discussion between FAA management and air traffic controllers at Columbus and Austin concerning ARSA operations and air traffic procedures were conducted routinely. These activities revealed that a significant majority of users approve of the ARSA concept in the NAR recommendations. The FAA also conducted a detailed analysis of comparative radar data gathered before and during the confirmation at Columbus, a copy of which is in the docket, and found that the ARSA produced a significant reduction in collision risk.

The FAA concluded that the confirmation at Columbus and Austin indicated probable benefits of the ARSA program for users at other locations. The confirmation also revealed an ARSA to be a practical replacement for a TRSA from an ATC procedural standpoint. On November 30, 1984, the FAA published Notice No. 84–22 which proposed air traffic rules governing flight operations within designated ARSA's (49 FR 47184).

Analysis of Comments

The FAA received 17 comments on the Notice of Proposed Rulemaking (NPRM) published November 30, 1984, in Docket No. 23708, in addition to 15 comments received earlier in the same docket in response to SFAR 45, which included a request for comments. Also, several comments received in the related Airspace Docket No. 84–AWA–31 contained remarks pertinent to Docket No. 23708, and were considered in the development of this rule. Those persons who have an interest in either proposal are encouraged to review the comments submitted in both dockets.

Several commenters were critical of the comment period on the NPRM provided by the FAA, and requested an extension of the comment period. The FAA believes the period of notice and comment was sufficient to permit full public comment on the proposed rule. The flight rules adopted in this amendment have been the subject of extensive discussion and review by the aviation public as a result of the NAR process, by which the rules were recommended. Moreover, the designation of any particular site for establishment of an ARSA will be the subject of additional rulemaking, with the opportunity for additional public comment.

The comments received on the SFAR between December 1983 and August 1984 were generally critical of the ARSA concept, although not on the basis of actual experience with the Austin, TX, or Columbus, OH, ARSA's. Common comments were that the standardized ARSA airspace will not serve the intended purpose in areas of mountainous terrain, will discourage or preclude certain activities such as soaring near ARSA airports, and will inhibit free access to satellite airports within an ARSA. The FAA does not believe that any of the above criticisms constitutes an unsurmountable problem with establishment of the ARSA program or presents sufficient reason to depart from the general policy of establishing ARSA's in a standardized configuration. However, the actual configuration of any particular ARSA will take into consideration any unusual terrain features. Also, there are means to accommodate the presence of satellite airports and, where consistent with ATC safety and efficiency, VFR activities such as soaring. These measures are discussed in more detail below in connection with comments received in response to the most recent NPRM.

Comments received from organizations which participated in NAR Task Group 1–2.2 were generally supportive of the proposed ARSA rules. These groups included the Aircraft Owners and Pilots Association (AOPA), the Air Transport Association (ATA), the Experimental Aircraft Association (EAA), the National Business Aircraft Association (NBAA), the Regional Airline Association (RAA), and the Air Line Pilots Association (ALPA). In each case the above groups offered additional comments or requests which, together with other comments received, are discussed below by subject.

Establishment Criteria

Several commenters addressed the need for specific criteria for establishment (and disestablishment) of ARSA airspace at individual sites, rather than considering each existing TRSA as an automatic candidate for an ARSA. Recommended criteria included aircraft operations and passenger enplanements, proximity of other airspace complexes and other airports, and geography. AOPA also suggested that in addition

airspace configurations, and nearby airports would receive full consideration by FAA not only in determining appropriate adjustments to the configuration of the ARSA, but also in determining whether it would be appropriate to establish an ARSA.

FAA is currently in the process of developing specific quantitative criteria, such as traffic and passenger enplanements, for example, for proposing the establishment of ARSA's for locations that are not TRSA's or that are not served by a Level III, IV, or V approach control facility. FAA will issue the criteria before proposing such additional ARSA locations. FAA does not intend to develop the criteria through the formal rulemaking process, but will take into consideration all comments relating to establishment criteria received in the docket.

FAA has not proposed to consider any existing TCA's for potential replacement by ARSA's, and does not adopt such a policy at this time.

Potential Impacts

Comments critical of the proposal generally involved concerns about increased delays, the exclusion of certain user groups, and potential safety impacts. Several commenters were concerned that establishment of an ARSA would increase traffic delays in that area as a result of unnecessary separation standards, extensive vectoring, and the difficulty in contacting ATC due to frequency congestion. Because participation in existing TRSA's is high, and separation standards in an ARSA are less than those in a TRSA (radar separation standards in an ARSA are less than 1.5 mile lateral standard for participating aircraft in a TRSA), FAA does not believe that the implementation of mandatory separation in ARSA's will result in any significant traffic delays. For the same reason, the FAA does not anticipate extensive or circuitous vectoring of aircraft in an ARSA. The NAR proposal was intended to minimize the vectoring or rerouting of VFR aircraft in affected terminal airspace, and this should be accomplished by the procedures implemented by FAA. Moreover, the only requirement to enter an ARSA is two-way radio communications with ATC. In the absence of subsequent ATC instructions, the pilot may proceed via his/her planned route. Finally, FAA does not believe that radio frequency congestion will result in delays or exclusion from an ARSA. When congestion is experienced, resource adjustments will be considered to resolve the problem.

A few commenters on the NPRM expressed concern that an ARSA would have the effect of excluding some VFR pilots, primarily recreational aircraft and sailplanes. The ARSA requirement for two-way radio communications does effectively preclude aircraft not having this basic communications capability from entering an ARSA, without special ATC authorization. FAA believes, however, in consideration of the safety benefits of the communications requirement, that the effects of the rule are limited and are fully justified. Moreover, as discussed below in connection with ARSA configuration, special procedures will be considered on a site-specific basis to permit access to nontower airports underlying an ARSA, without entering ARSA airspace. It may also be possible, at affected sites, to accommodate soaring and other recreational VFR flight activities in an ARSA through agreement with the controlling ATC facility. In the rulemaking which will precede the establishment of each individual ARSA, FAA will consider comments and suggestions on means for the safe and efficient accommodation of aviation activities which might otherwise be precluded by the proposed ARSA.

While none of the commenters on the NPRM claimed that an ARSA would reduce safety rather than enhance it, several safety-related issues were raised in comments on the NPRM and on the previous SFAR. One commenter suggested that controller workload would be substantially increased by the implementation of an ARSA. The FAA is confident that an increase in traffic will only result from the handling of aircraft not presently participating in the TRSA program and that any such increase would not cause a substantial increase in an individual controller's workload because of the present high level of participation in the TRSA program. However, if an ATC facility does experience a substantial increase in traffic handled, the FAA will take the necessary measures to ensure that adequate facilities and personnel are available to handle the increase.

Another comment was that the establishment of an ARSA, with its operating requirements, would lead many VFR pilots to avoid the ARSA, resulting in compression of traffic in adjacent areas. FAA

ARSA Configuration and Dimensions

Many of the commenters suggested changes to the ARSA dimensions as proposed, while others urged that no consideration be given to expansion of the proposed dimensions. Commenters generally supported the FAA policy of standardizing the dimensions of ARSA's, and NBAA in particular expressed concern at FAA's announced intention to consider "customization" of areas in certain circumstances. FAA has adopted the dimensions as proposed, and, in the absence of special circumstances, individual ARSA's will be proposed in the standard configuration. However, the existence of other airports or controlled airspace adjacent to the primary airport may present a situation in which the standard configuration is not feasible.

AOPA and EAA both requested that access to satellite airports within a proposed ARSA be protected. AOPA specifically requested that the traffic pattern of a satellite airport be excluded from the ARSA and depicted as a cutout from the ARSA on aeronautical charts. AOPA argued that traffic to and from satellite airports should not be required to participate in the ARSA, and that exclusion of the satellite airport traffic pattern from the ARSA is the only way to avoid pilot confusion. EAA suggested that access to satellite airports within the 5-mile core of an ARSA, without participation in the ARSA, could be allowed by retaining the provisions of FAR 91.85(b). Section 91.85(b) permits operation to and from the satellite airports in an airport traffic area. FAA believes that establishment of an ARSA will not necessarily have an adverse effect, on access to satellite airports within the ARSA, and that where there is a potential for such effect, it can be resolved. Satellite airports with control towers, whether in the 5-mile core or the 10-mile shelf area, will require no adjustment of the ARSA configuration. Local procedures established between the satellite tower and the ARSA controlling facility will ensure that pilots remain in contact with the appropriate facility, and that access to the airport through ARSA airspace is not impeded. For nontower airports located under the 5- and 10-mile shelf, no reconfiguration of the standard ARSA is required because aircraft may approach and depart the airport below 1200 feet above ground level (AGL), and thereby remain clear of ARSA airspace. Nontower airports within the 5-mile core area present a more complex problem. It may be most practical to provide access to the airport by letter of agreement or other special arrangement with the ARSA controlling facility. However, in situations where safety, traffic flow, or pilot understanding would be enhanced, the FAA will consider permitting unrestricted access to the airport below 1200 feet AGL. In such situations, cutouts would be depicted on the representation of the ARSA's on aeronautical charts.

AOPA renewed its request, first made in the NAR task group, that the upper limit of the ARSA airspace be set at 3000 feet above airport elevation rather than 4000 feet as proposed. This issue was considered by the NAR task group, and has been reconsidered by FAA in light of the operational experience at Austin and Columbus. Based on the majority recommendation of NAR Task Group 1–2.2, the comments of other users, and the experience with the Austin, TX, and Columbus, OH, ARSA's, FAA has retained the 4000 foot cap. FAA considers it desirable to have mandatory participation up to 4000 feet above airport elevation for the type of airports that will be eligible for the ARSA airspace designation, and we do not believe it necessary or beneficial to make the cap compatible with the upper limit of the airport traffic area, as AOPA suggests.

AOPA requests that the lower limit of the ARSA shelf be set at 1200 feet above the highest terrain in the 10-mile radius, and that the floor not be segmented to follow variations in terrain. FAA agrees that any segmenting of the floor in the 5-to 10-mile area should be kept to a minimum, but we believe that some segmenting will be appropriate in certain terrain situations. Each proposal to incorporate a segmented base altitude will be subject to further comment in the airspace rulemaking for that location.

Representatives of the Soaring Society of America and several individual sailplane pilots requested that in areas where soaring is now conducted within the proposed ARSA, either the ARSA be modified or special procedures be developed to permit the sailplane operations to continue without complying with ARSA communication requirements. FAA does not believe that a national policy of modifying the standard ARSA configuration or procedures is warranted, given the relatively small number of locations

services are provided by ATC, but in which user participation [illegible] mile perimeter acceptable, but suggested that the areas of two adjacent ARSA's be connected. This suggestion will be considered in the airspace rulemaking at appropriate locations. ALPA objected to the 20-mile limitation and requested that radar service be provided to the limits of the controlling facility's radar coverage, as implemented during the operational confirmation. For the reasons discussed in the NPRM, FAA continues to believe that the 20-mile perimeter provides a high level of service to participating aircraft consistent with the resources of the local ATC facility, and, because of its uniformity, minimizes pilots' confusion about the services available.

Required Equipment

ATA requested that altitude-encoding transponders be required in addition to twoway radios for operation in an ARSA. FAA does not believe that transponders are required to effect the purposes of the TRSA program, and does not intend to propose a requirement for transponders in ARSA airspace.

EAA and the Soaring Society of America both expressed concern that the use of 25 kilohertz (kHz) frequency spacing, made possible by 720-channel radios, would constitute a hardship for operators of small recreational aircraft having older 360-channel radio equipment. Because the rule requires two-way radio communications capability for operation in an ARSA, the use of the 25kHz spacing in ATC ARSA frequencies would effectively force these operators to upgrade their communications equipment. There is now a serious shortage of radio frequencies spaced at 100kHz intervals. The requirement for 720-channel radio capability for system users will likely increase independent of the ARSA airspace decision. At most of the locations for which ARSA's will be proposed, there is already a considerable demand for 720-channel radio capability, and FAA believes that the majority of aircraft using these airports already have this equipment. However, the extent that operators may need to install or upgrade aircraft radios at some potential ARSA sites will be assessed in the regulatory evaluation of a separate rulemaking proposing the designation of ARSA's at specific locations (see discussion in Economic Impact below).

Other Comments

A number of other comments were made concerning matters of operations under an ARSA, such as ATC procedures and the representation of ARSA's on aeronautical charts, which do not affect the substance or justification of the rule itself. FAA will take these comments into consideration in implementing designated ARSA's, but will not address them here.

Adoption of NAR Recommendations

The FAA's action with respect to each of the aforementioned NAR recommendations is set forth below.

NAR 1–2.2.1 REPLACE TRSA's WITH ARSA's

While the adoption of this recommendation would indicate that the FAA is adopting all aspects of the other NAR recommendations addressed herein, the FAA has only adopted the aspect dealing with the discontinuance of TRSA's. The remaining aspects of this recommendation are treated individually. In that regard, all current TRSA locations will remain as such until they are cancelled or converted to ARSA's. Additionally, ATC procedures dealing with TRSA's will remain in place and aeronautical charts will continue to depict each TRSA until it is cancelled or converted.

NAR 1–2.2.2 ARSA SIZE AND OPERATING REQUIREMENTS

The physical dimensions of the ARSA and the operating requirements recommended by the task group are adopted except that the floors of the airspace between 5 and 10 miles may be segmented and will be expressed in altitudes above mean sea level instead of AGL because of variations in terrain elevations. This deviation is in the spirit of the task group's recommendations and every effort will be made to ensure that the ARSA airspace between 5 and 10 miles of each ARSA is not segmented except as necessary.

of ARSA's; terrain; unusually high level of activity not related to the ARSA airport operation, and radio/radar coverage. Accordingly, the limits of the airspace outside each ARSA within which ARSA services are provided will be depicted narratively on sectional charts in a manner similar to the method used for the confirmation. The procedures for establishing the limits will be implemented under the FAA directive system; therefore, user organizations will have another opportunity to provide comments regarding this subject.

NAR 1–2.2.4 ATC SERVICES

The ATC services that the task group recommended the FAA provide within the ARSA will be provided as recommended, and will be implemented under the FAA directives system. The services provided by ATC through mandatory participation in the ARSA will be available to pilots on a voluntary participation basis in other specified areas within the approach control's area of jurisdiction. These services will be in addition to the services and separation currently applied to aircraft operating under IFR. Specifically, ATC will: (1) Resolve potential confiictions between aircraft operating under IFR and aircraft operating under VFR by ensuring that 500 feet vertical separation exists between those aircraft or by ensuring that those aircraft's radar targets do not touch; and (2) provide traffic advisory service and arrival sequencing to aircraft.

Where there is a satellite airport with an operating control tower within the ARSA, the airport traffic area of the satellite airport will overlap the ARSA airspace. The requirements of the adopted rules apply in such airspace. Pilots approaching a satellite airport with an operating control tower will be provided ARSA services until they are in two-way communication with the tower. Pilots approaching a satellite airport without an operating control tower will receive ARSA services until they are instructed to change to the appropriate airport frequency; however, general traffic information concerning observed radar targets will be provided by ATC in such cases. Pilots departing a satellite airport will receive ARSA services upon establishing two-way radio communications with the ARSA facility.

The provision of ARSA services at any location is dependent upon operation of the local ATC facility. Hours of facility nonoperation, when ARSA requirements and services would not apply, may be specified in airspace rules for individual sites or by Notices to Airmen.

NAR 1–2.2.6 AIRSPACE DESIGNATION CRITERIA

This recommendation is adopted. The following is a list of TRSA locations that are candidates for conversion to ARSA's. In some cases under this recommendation, more than one ARSA would be created from a single TRSA; for example, there are three airports within the Ontario, CA, TRSA—Ontario International, March Air Force Base (AFB), and Norton AFB airports—that would be candidates for individual ARSA's. However each specific ARSA airport will be addressed separately in an NPRM.

ARSA Candidate Locations:

Anchorage, AK	Orlando, FL
Mobile, AL	Tampa, FL
Little Rock, AR	Macon, GA
Burbank, CA	Cedar Rapids, IA
Ontario, CA	Champaign, IL
San Diego, CA	Rockford, IL
Windsor Locks, CT	Fort Wayne, IN
Jacksonville, FL	Wichita, KS
Tallahassee, FL	Louisville, KY
Columbus, GA	Lake Charles, LA
Kahului, HI	Portland, ME
Boise, ID	Kalamazoo, MI
Peoria, IL	Gulfport, MS
Evansville, IL	Charlotte, NC

Islip, NY
Syracuse, NY
Columbus, OH
Youngstown, OH
Portland, OR
Harrisburg, PA
Quonset Pt., RI
Greer, SC
Knoxville, TN
Amarillo, TX
Corpus Christi, TX
Midland, TX
Chantilly, VA
Roanoke, VA
Tacoma, WA
Milwaukee, WI
Birmingham, AL
Montgomery, AL
Phoenix, AZ
Monterey, CA
Palm Springs, CA
Santa Ana, CA
Daytona Beach, FL
Cincinnati, KY
Baton Rouge, LA
Shreveport, LA
Flint, MI
Lansing, MI
Jackson, MS
Fayetteville, NC
Lincoln, NE
Alburquerque, NM
Buffalo, NY
Rome, NY
Akron Canton, OH
Bristol, TN
Memphis, TN
Austin, TX
El Paso, TX
San Antonio, TX
Norfolk, VA
Burlington, VT
Green Bay, WI
Charleston, WV
Huntsville, AL
Abilene, TX
Tucson, AZ
Oakland, CA
Sacramento, CA
Colorado Springs, CO
Ft. Lauderdale, FL
Pensacola, FL
W. Palm Beach, FL
Savannah, GA
Des Moines, IA
Moline, IL
Springfield, IL
Indianapolis, IN
Tulsa, OK
Erie, PA
San Juan, PR
Columbia, SC
Chattanooga, TN
Nashville, TN
Beaumont, TX
Lubbock, TX
Salt Lake City, UT
Richmond, VA
Spokane, WA
Madison, WI

NAR 1–2.2.7 CHARTING

This recommendation is adopted. Each ARSA will be depicted on aeronautical charts in a manner similar to the way Austin, TX, and Columbus, OH, locations are depicted.

NAR 1–2.2.8 EDUCATION

This recommendation is adopted to the extent set forth in Notice 84–22.

The Amendment

After consideration of the comments received, the FAA is adopting, with the exception of two editorial changes, the amendments to Parts 71, 91, 103, and 105 as they were proposed in Notice 84–22. The definition of an ARSA in new Section 71.14 has been revised for consistency with the definitions of other types of controlled airspace in Part 71. The revision has no effect on the operating rules for an ARSA or the extent of airspace involved. A second editorial revision was made to new Section 91.88. The phrase "or heliport" was deleted from the proposed section as unnecessary, because the term "airport" as defined in FAR Part 1, Section 1.1, includes heliports.

These amendments establish a new type of airspace assignment and prescribe operating rules for aircraft, ultralight vehicles, and parachute jump operations in that airspace.

and any FAA arrival or departure traffic pattern for the airport of intended operation. However, the proposed rule permits ATC to authorize appropriate deviations to any of the operating requirements of the proposed rules when safety considerations justify the deviation or more efficient utilization of the airspace can be attained. Ultralight vehicle operations and parachute jumps in an ARSA may only be conducted under the terms of an ATC authorization.

Economic Impact

This action defines an ARSA and establishes air traffic rules for operation within the ARSA. Specific designations of individual ARSA's will be proposed in separate NPRM's. This amendment has no economic consequences. Rather, it is the airspace proposals which would implement this rule at specific sites that would have the economic impact, if any, at those sites. The FAA will provide a Regulatory Evaluation (an analysis of the economic impact), a Trade Impact Analysis (an analysis of the impact of the rule on foreign trade), and a Regulatory Flexibility Determination (whether a proposal has a significant economic impact on a substantial number of small entities) when an ARSA is proposed at specific sites.

Accordingly, the FAA has determined that: (1) The amendment does not involve a major rule under Executive Order 12291; (2) the amendment. is not significant nor does it require a full Regulatory Evaluation under DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979); and (3) it is certified that under the criteria of the Regulatory Flexibility Act that the amendment will not have a significant. economic impact on a substantial number of small entities. In addition, this amendment, if adopted, would have little or no impact on trade opportunities for U.S. firms doing business overseas, or for foreign firms doing business in the U.S.

This rule is published less than 30 days prior to its effective date of March 14. By separate rulemaking published this date, FAA has established ARSA's at Austin, TX; Columbus, OH; and Baltimore, MD, to take effect on March 14. March 14 is the next publication for enroute low altitude navigation charts published by the National Ocean Survey. Pilots rely on these charts for flight information, and FAA considers it a matter of flight safety that the implementation date for each ARSA coincide with the publication date of the air navigation chart depicting the ARSA. The permanent Austin and Columbus ARSA's and the Baltimore ARSA cannot be established unless this rule, which promulgates the definition and operating rules for ARSA's is in effect. If these ARSA's are not established on March 14, the next subsequent chart publication date, and the next date on which the three ARSA's could become effective, is in September. FAA considers the establishment of the ARSA at Baltimore Airport to be of immediate importance and cannot accept a 6-month delay in implementation of this ARSA. Furthermore, controller training, revised coordination procedures among adjacent ATC facilities, and equipment display modifications have been undertaken at all these locations in preparation for the March 14 effective date. A 6-month delay in implementation would have a disruptive effect on the ATC facilities involved. For these reasons, and in consideration of the fact that the final rule is substantially identical to the proposal, the FAA finds that good cause exists for making the rule effective less than 30 days after publication.

The Rule

For the reasons set out in the preamble, Chapter I of Title 14 of the Code of Federal Regulations is amended effective March 14, 1985.

(Secs. 307 and 313(a), Federal Aviation Act of 1958, as amended (49 U.S.C. 1348,1354(a)); 49 U.S.C. 106(g) (Revised, Pub L. 97–449, January 12,1983); 14 CFR 11.45; and 14 CFR. 11.65.)

operations in terminal control areas (TCA). Specifically, the rule: (1) establishes a single-class TCA; (2) requires the pilot-in-command of a civil aircraft to hold at least a private pilot certificate, except for a student pilot who has received certain documented training; and, (3) eliminates the helicopter exception from the minimum navigational equipment requirement. These actions are expected to enhance the safety of operations in a TCA.

FOR FURTHER INFORMATION CONTACT: Mr. Reginald C. Matthews, Airspace-Rules and Aeronautical Information Division, ATO–200, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, DC 20591, telephone (202) 267–8783.

SUPPLEMENTARY INFORMATION:

Background

On June 16, 1987, the Federal Aviation Administration (FAA) issued Notice 87–7 (52 FR 22918) proposing to require all aircraft operating within 30 miles of a TCA primary airport to be equipped with a transponder with Mode C. Additionally, Notice 87–7 proposed to: (1) establish other pilot and equipment requirements associated with operations in a TCA, and (2) establish a single-class TCA which would replace the existing three groups of TCA's.

Notice 87–7 is premised on the conclusions of the National Airspace Review (NAR) Task Group 12–1, comprised of representatives from the FAA and aviation industry, which studied the terminal air traffic control (ATC) system in 1983. Additionally, an FAA TCA Review Task Group composed entirely of FAA employees met in the aftermath of the August 1986 midair collision that occurred within the Los Angeles TCA over Cerritos, California. The TCA Review Task Group's specific agenda was to review all aspects of the TCA program including measuring TCA effectiveness and making recommendations for improving TCA traffic flows and, in particular, for enhancing the overall safety of operations in and around TCA airspace.

Analysis of Comments

As a result of recent legislation requiring the FAA to issue rules regarding Mode C transponder equipage in airspace where terminal radar is used for separation of aircraft (Public Law 100–202 and Public Law 100–223), the transponder and Mode C requirements proposed in Notice 87–7 have been consolidated and addressed in Amendment 91–203. The FAA issued Amendment 91–203, "Transponder with Automatic Altitude Reporting Capability Requirement," on June 17, 1988 (53 FR 23356, June 21, 1988).

Accordingly, this final action is limited to the proposals in Notice 87–7 which dealt with the TCA classification, helicopter navigational equipment requirements, and pilot qualification for flight in a TCA.

The FAA received approximately 7,000 comments concerning the proposals in Notice 87–7. In addition, the FAA received approximately 43,000 pre-printed form letters that did not address the specifics of the proposals in Notice 87–7 but were generally critical of the more restrictive rules associated with flight in large terminal areas. The comments concerning the transponder and transponder with Mode C proposals were addressed in the preamble to Amendment 91–203 and are not addressed in this final rule action. The following is a categorization and discussion of the substantive comments received.

Climb Corridors

An aviation organization, as well as other individual commenters, suggested that the FAA should seriously consider establishing arrival and departure corridors for primary airports that are currently in TCA's instead of continuing to establish and retain TCA's with existing designs. Numerous commenters agreed with this position, stating that the FAA should establish arrival and departure corridors for air carrier aircraft which would be similar to climb corridors that are used by military aircraft.

Several aviation organizations agreed with the proposal in Notice 87–7 that would eliminate the three classifications of TCA's and create a single-class TCA. Several organizations and many individual commenters offered comments concerning the FAA's announced plans to revise its airspace design procedures associated with TCA's. Some commenters favored this action, some were of the opinion that TCA's should encompass more airspace, and others generally objected for economic reasons. Other commenters suggested that the FAA establish visual flight rules (VFR) routes or corridors through TCA's so that aircraft may traverse a TCA rather than having to circumnavigate.

On September 17, 1987, the FAA issued an internal directive, Notice N7400.21, which effectively revised FAA Handbook 7400.2, Procedures for Handling Airspace Matters. This directive made the TCA standardization and simplification plans announced in Notice 87–7 a reality. Under this directive, air traffic field elements must review each existing TCA in light of the announced standardized dimensions. An integral part of each review is an examination of manpower and equipment resources needed to accommodate any resulting increase in workload. However, a TCA will be modified for operational and/or safety benefits only and not for the purpose of standardization. If a modification is determined to be feasible and necessary, then a proposal would be discussed with the public in an informal airspace meeting before a notice of proposed rulemaking is initiated. The public will be given an opportunity to actively participate in the TCA design development during the informal airspace meetings, and to comment on the proposed configuration after a notice of proposed rulemaking is published.

Additionally, the recently revised TCA design guidelines include a requirement to establish VFR TCA transition routes where possible. These routes are to be procedurally designated in portions of the TCA where transiting aircraft would least interfere with the TCA traffic flow. The routes would also be published on appropriate aeronautical charts. Pilots desiring to fly through the TCA would know where to position their aircraft when requesting clearance through the TCA. While pilots should not infer that these routes will be available in all instances, many aircraft may be accommodated with minimal delay. Operations on these routes must meet all the equipment requirements for operations in a TCA.

Charting

An aviation organization, in general support of the proposed transponder requirements, stated that prominent landmarks in the vicinity of TCA's should be depicted on FAA aeronautical charts so that pilots can avoid the TCA by referencing these landmarks, if that is their intent. Other commenters made TCA charting recommendations.

As a continuing practice, the FAA does depict prominent landmarks on sectional and terminal area charts. In many cases, requests for depicting these landmarks originate from users through the FAA's terminal ATC facilities. Although the agency believes that existing terminal area charts provide sufficient detail for a pilot to be able to circumnavigate the TCA, the FAA is continually working with aviation organizations, the Department of Defense, and the National Ocean Service to improve the associated charting.

Comment Period Too Short

An aviation organization stated that the FAA showed a disregard for the airspace users it regulates by not providing for a longer public comment period for Notice 87–7. Several commenters were critical of the extended comment period provided by the FAA, and requested further extension.

The FAA believes the period for comment including the extension was sufficient to permit full public comment on the proposed rule. The FAA extended the original comment period 30 days in response to a request from an aviation association to facilitate circularization of the notice to that association's members. The FAA is aware that many general aviation pilots receive notification of proposed rulemaking only through user associations and, in this particular case, noted that an extension of the comment period would not jeopardize the ability of the agency to reach final rulemaking action in a timely manner.

not needed; e.g., for local flight training or agricultural operations and, for some helicopters, the added weight poses a penalty in the form of a reduced useful load.

The current minimum navigational equipment requirement for aircraft operating in a TCA ensures that each such equipped aircraft is capable of providing ATC with accurate position data. This requirement also facilitates more precise navigation along routes contained in ATC clearances. Helicopters no longer represent a small percentage of the aircraft operating in TCA's nor are they limited by operational capability with respect to flight within TCA airspace, which was the rationale applied to their original exclusion in § 91.90. Their versatility has brought about a significant rise in operations in and around busy metropolitan areas, particularly those where TCA's exist. It is the FAA's belief that helicopters must be treated in the same manner as any other aircraft while operating in a TCA. The need for safety, especially since a significant number of passengers will be transported from airports within the TCA's (i.e., inter-city transport), argues against the contention that helicopters should be viewed as ''special applications'' type aircraft.

Effects on the Expanded East Coast Plan (EECP)

An aviation organization questioned whether the FAA considered the effect of expanded and new TCA's on the progress or effectiveness of the EECP. This organization was of the opinion that the proposed TCA expansions and the institution of new TCA's in the airspace covered by the EECP would undermine 5 years of planning by air traffic specialists and would undoubtedly conflict with the intended benefits of the EECP.

Phase I of the EECP was implemented February 12, 1987. The final segment of Phase II was implemented on March 10, 1988. The proposals made in Notice 87–7 will have no effect on the EEGP's realignment of Jet Routes or very high frequency omnidirectional range (VOR) Federal Airways and the associated benefits of the plan.

Public Involvement

Several commenters suggested that the FAA should form working groups composed of representatives from government and the aviation community to study the problems that the proposed requirements are supposed to solve. Most of these commenters stated that they believed that this group should be charged with the development of workable solutions. An aviation organization supporting this suggestion stated that these working groups should involve local FAA ATC personnel and users of both high and low performance aircraft that engage in commercial and non-commercial flight activity. Another organization was of the opinion that the FAA should utilize user forums and pay more attention to user comments in developing TCA's which should serve the requirements and safety needs of all airspace users.

As stated in the notice, the recommendations detailed in the proposal were made with the involvement of the industry through the National Airspace Review (NAR) Task Group 1–2.1. The NAR effort was subsequently affirmed by the special FAA TCA Review Task Group. The recommendations were made after both groups had performed an indepth analysis of TCA's.

The FAA believes that the NAR process, described earlier, provided a format similar to that requested by commenters. However, prior to developing final actions, the FAA must initiate rulemaking procedures under the provisions of the Administrative Procedure Act to involve the public as a whole. In addition, the FAA will attempt to solicit input from the public prior to any major change to any existing or proposed TCA configuration.

Training

Some commenters expressed opinions that the proposed student pilot restrictions would result in a decrease in the number of student pilots and, therefore, adversely affect the number of future airline and military pilots.

day period. Another aviation organization suggested that the student pilot should have at least received training in the last 90 days in order for the instructor pilot endorsement to be effective and that the instructor pilot providing the training should endorse the student's logbook accordingly.

The FAA does not agree that student pilots should be prohibited from operating at all high density TCA airports. Although operation at such airports requires a high degree of familiarity with the required procedures, a student pilot can gain this familiarity through required flight instruction in operations at each specific high density airport at which the student is authorized to operate. However, the FAA does not agree with the feasibility of blanket endorsement for operations at all such airports since the student pilot has not yet acquired the experience, knowledge, and skill to operate in widely varying terminal areas without obtaining instruction on operating in each particular terminal area. In addition, the FAA believes that student pilot operations should be prohibited at certain high traffic density airports, as specified in proposed § 91.90(b)(2), because of the extremely high level of complexity at these locations. The FAA does agree that the recency of the training received is a valid consideration in determining the adequacy of a student pilot's ability to operate in a TCA. The FAA now requires student pilots to obtain flight instruction in each make and model of aircraft flown every 90 days in order to operate that aircraft in solo flight. The TCA student endorsement would fall into the same category.

Another commenter stated that proposed § 61.95(b) is not clear as to the need for actual flight instruction in a specific TCA to which a student may operate on a cross-country flight. This commenter recommended that specific instructions in flight in the more complex TCA's be required but may not be necessary for operations into other less complex TCA's. Another aviation organization agreed that a 90-day endorsement is a realistic requirement to ensure that student pilots have adequate knowledge and skills to operate safely in TCA airspace. However, this organization stated that the FAA failed to adequately support the proposed requirement for a student to have received instruction at each airport in a TCA where he/she may choose to land on solo flights. This organization proposed revising §§ 61.95 and 91.195 to include separate items relating to ground instruction and appropriate endorsement, and flight instruction and endorsement.

The operating environment and special operating conditions remain unique at each TCA and, therefore, demand specific instruction in each one to ensure safe student pilot operation. Similarly, operating conditions at each airport within the surface area of a given TCA will be complex and unique and require that a student receive instruction at each such airport before operating at that airport solo. For these reasons, the FAA agrees that the wording of § 61.95 as proposed in Notice 87–7 should be clarified in this regard. The language of the final rule will mandate that the required flight instruction must include at least one flight in each TCA in which a student will be authorized to conduct solo flight and at least one takeoff and landing at each airport within the surface area of a TCA to which the student will operate. In any regard, the actual number of these types of instructional operation should be determined by the student's instructor.

One aviation organization stated that it was unsuccessful in determining whether the 12 TCA's cited in the notice of proposed rulemaking involve flight training schools and student pilots. However, this organization stated that a simple instructor pilot endorsement would be adequate for helicopter students as most of their operations; i.e., hovering and low altitude operations along charted helicopter routes, do not presently affect other controlled operations in a TCA.

Since each TCA and each airport or heliport within a TCA imposes a unique set of operating circumstances, a student pilot needs to receive instruction for each separate TCA and each airport or heliport within a TCA at which he/she operates. Therefore, a separate endorsement for each TCA operation should be received.

Regulatory Evaluation

The FAA published Notice 87–7 on June 16, 1987, addressing four issues, three of which might have some economic impact. One issue deals with changes in requirements for pilot certification. The second issue concerns the requirement for a transponder with Mode C within a 30-mile radius of a

The FAA has concluded that the rules regarding pilot certification will have no adverse economic impact because they will merely formalize present training practices. Students are currently being provided with ground instruction and dual-flight training before being allowed to fly solo within either a Group I or II TCA, although no formal endorsement from an instructor is now required. The requirement for a logbook endorsement will impose only a minimal burden on flight instructors.

Transponder with Mode C

There were many comments relating to the economic impact of the requirement for a transponder with Mode C within 30 miles of a TCA primary airport. As a result of legislation, the FAA has addressed Mode C transponder issues under separate rulemaking action. Accordingly, the final rule contained herein deals only with the Notice 87–7 proposals that addressed single-class TCA's, helicopter navigational equipment and pilot requirements for operations in TCA's. However, the regulatory evaluation concerning the Mode C requirement is discussed in Docket No. 25531, Amendment No. 91–203.

Helicopter Navigational Equipment Requirements

Effective July 1, 1989, this rule requires helicopters to operate under the same navigational equipment requirements as other aircraft in a TCA.

Costs

Some helicopter operators will have to purchase VOR or tactical air navigation (TACAN) equipment. The FAA estimates that the cost of this equipment is $2,500. This cost is based on discussions with avionics manufacturers. Some commenters indicated that the cost of avionics was higher than the FAA estimates. There is, in fact, a wide variation in avionics cost. The FAA has selected the low cost equipment for its estimates since it meets the requirements of FAA regulations. Additional equipment features are not required as a result of this final rule.

Without an actual survey, it is difficult to determine the number of helicopters that may be impacted by this rule. In the notice of proposed rulemaking, the FAA estimated that about 50 percent of the helicopter fleet would be impacted by the proposed rule (includes the impact of the transponder with Mode C proposal). The commenters did not take exception to this estimate. A helicopter association stated that, typically, operators will equip their helicopters with transponders when it is necessary to routinely use TCA airspace for transit, departures, and landings. It is assumed that this typical scenario would apply to the equipage of navigational capability. It is further assumed that ''typically'' means at least 70 percent are equipped. The FAA estimates that approximately 25 percent of the helicopter fleet will operate in TCA airspace. Of this percentage, the vast majority is expected to be already equipped with the required navigational equipment.

Therefore, only 30 percent of the 25 percent that operate in a TCA need to be equipped with avionics. Since there are about 7,000 active helicopters (Source: ''General Aviation Activity and Avionics Survey,'' FAA, December 1987) in the fleet, some 525 helicopters would be required to purchase avionics. At $2,500 for the navigational equipment, the cost to the helicopter industry would be $1,313,000. A yearly maintenance cost of about 5 percent or $66,000 per year must be added to this.

Benefits

The accident record for the last 10 years indicates that there have not been any midair collisions involving helicopters within TCA's. The historical record is not necessarily a reliable indicator of prospective accidents. It is clear that the ability to navigate more precisely with less deviations along a route, and the ability to provide ATC with more accurate position data, reduce the probability of a midair collision. If these regulations prevent only one accident involving a helicopter, the benefits would clearly exceed the costs of equipping them.

The Initial Regulatory Flexibility Analysis published with the Notice of proposed rulemaking indicated that the original proposed rule would not have a significant impact on a substantial number of small entities. This initial analysis indicated that the proposals would not affect the operations or impose any costs on the individual flight schools and flying clubs because their student training activities would not be affected. Since the annualized cost for the required navigational equipment is only about $200, Part 135 operators would not be impacted significantly.

There were numerous comments with respect to the impact on small businesses. The vast majority of these comments addressed the proposed transponder with Mode C requirement and did not directly address the requirements for small helicopter business to operate in a TCA with avionic requirements similar to other aircraft. One helicopter association did indicate that the typical helicopter operating in a TCA would be equipped with a transponder with Mode C. The FAA also believes this to be the case in regard to the required navigational equipment. For these reasons, it is certified that this rule will not have a significant effect on a substantial number of small entities.

Trade Impact Assessment

The rule will have no impact on trade opportunities for both the U.S. firms doing business overseas and foreign firms doing business in the U.S.

Federalism Determination

The amendment set forth herein would not have substantial direct effects on the States, on the relationship between the National Government and the States, or on the distribution of power and responsibilities among the various levels of Government. The regulations set forth in this final rule would be promulgated pursuant to the authority in the Federal Aviation Act of 1958, as amended (49 U.S.C. 1301, et seq.), which has been construed to preempt State law regulating the same subject. Therefore, in accordance with Executive Order 12612, it is determined that such regulations do not have federalism implications warranting the preparation of a Federalism Assessment.

The Rule

For the reasons stated above, the FAA is adopting the single-class TCA, student pilot endorsement, and helicopter navigational equipment provisions contained in Notice 87–7. The following is a discussion of the regulatory changes contained in this final rule:

Single glass TCA. Effective January 12, 1989, the regulations pertaining to TCA's are amended by removing all references to Group I, II, and III TCA's. With this effort all TCA's will be simply referred to as a TCA.

Pilot Qualifications. The regulations pertaining to pilot qualifications for operations in a TCA take effect January 12, 1989. Generally, each pilot-in-command of a civil aircraft, in order to operate within TCA airspace or to takeoff or land at an airport within a TCA, must possess at least a private pilot certificate. However, student pilots may be permitted to conduct certain operations within a TCA except at 12 specific TCA primary airports, where student pilot operations are presently prohibited and will continue to be prohibited even with an endorsement. In order to be permitted to operate solo in a TCA, a student pilot must obtain specified training and logbook endorsement from his/her certified flight instructor prior to conducting such operations. In addition, training operations in or through a TCA may be required to be conducted along routes and/or in accordance with procedures developed and specified by the ATC facility having jurisdiction over the TCA. Establishment of these routes/procedures may take the form of a memorandum issued by that ATC facility and may be communicated by a letter to airmen or a letter of agreement between the ATC facility and a flight school or flying club.

Equipment Requirement. Effective July 1, 1989, the navigation equipment exclusion for helicopters operating in a TCA will be eliminated. These aircraft will be bound by the same equipment and operating requirements as other aircraft. The required equipment may be either a VOR or TACAN receiver.

For the reasons set forth in the preamble, Parts 91, 71, and 91 of the Federal Aviation Regulations are amended effective January 12, 1989.

The authority citation for Part 71 continues to read as follows:

Authority: 49 U.S.C. 1348(a), 1354(a), 1510, Executive Order 10854; 49 U.S.C. 106(g) (Revised, Pub. L. 97–449, January 12, 1983) 14 CFR 11.69.

Amendment 71–12

Applicability of Federal Aviation Regulations in the Airspace Overlying the Waters Between 3 and 12 Nautical Miles from the United States Coast

Adopted: December 27, 1988 **Effective: December 27, 1988**

(Published in 54 FR 264, January 4, 1989)

SUMMARY: This action extends controlled airspace and the applicability of certain air traffic rules to coincide with certain limits of territorial jurisdiction adopted by the United States. This action is taken in order to reflect presidential action extending the territorial sea of the United States, for international purposes, from 3 to 12 nautical miles from the U.S. coast.

FOR FURTHER INFORMATION CONTACT: David L. Bennett, Office of the Chief Counsel, AGC–230, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, DC 20591, Telephone: (202) 267–3491.

SUPPLEMENTARY INFORMATION:

Availability of Rule

Any person may obtain a copy of this rule by submitting a request to the Federal Aviation Administration, Office of Public Affairs, Attention: Public Inquiry Center, APA–230, 800 Independence Avenue SW., Washington, DC 20591, or by calling (202) 267–3484. Communications must identify the number of this SFAR. Persons interested in being placed on a mailing list for future rules should also request a copy of Advisory Circular No. 11–2A which describes the application procedure.

Background

A Presidential Proclamation extending the territorial sovereignty of the United States government, for international purposes, from 3 to 12 nautical miles from the U.S. coast, was signed on December 27, 1988. By its terms, this Proclamation does not extend the jurisdiction of any state or federal law and, therefore, does not alter the geographical boundaries of the United States (i.e., national borders and territorial waters within 3 miles of the U.S. coast) for domestic purposes. As a result, the definition of the United States contained in Section 101(41) of the Federal Aviation Act of 1958 (49 U.S.C. 1301) (FAAct) is not changed by the Proclamation and does not encompass the area between 3 and 12 nautical miles from the U.S. coast. Accordingly, the extension of the territorial sea to 12 nautical miles does not automatically extend the application of the FAAct beyond 3 nautical miles.

Article 12 of the Chicago Convention on International Civil Aviation obligates each Contracting State to adopt measures to insure that every person operating an aircraft within its territory shall comply with its air traffic rules and Annex 2, "Rules of the Air," of the Chicago Convention when over the high seas. The article further obligates each Contracting State to enforce the applicable regulations. In the United States, such obligations are reflected in 14 CFR Part 91.1, which requires that operators of aircraft comply with U.S. operating rules when in the United States and that operators of U.S.-

that area will neither be a part of the United States (for purposes of the FAAct) nor a part of the high seas.

Consequently, in order to continue to fulfill its international obligations and in order to maintain a safe environment in this area, it is necessary for the United States to extend its domestic air traffic control authority, under Title III of the FAAct, over the airspace extending from 3 to 12 nautical miles from the coast of the United States.

Section 1110 of the FAAct makes provision for the extension of the application of the Act, and FAA jurisdiction, to airspace beyond 3 nautical miles from the U.S. coast (49 U.S.C. § 1510). By Executive Order 10854 (issued November 27, 1959; 24 FR 9565, as amended by E.O. 11382, 32 FR 16247), the authority in Section 1110 has been exercised with respect to areas in which the U.S. Government has appropriate jurisdiction or control to the extent necessary for the Secretary of Transportation to accomplish the purposes and objectives of Title III of the FAAct (49 U.S.C. § 1341–1355) and Title XII of the Act (49 U.S.C. §§ 1521–1523). The Department of Transportation has decided that the extension of the application of the FAAct to 12 nautical miles from the U.S. coast is necessary to accomplish the purposes and objectives of Titles III and XII of the FAAct. The extension will be effective on December 27, 1988. The FAA has issued appropriate Notices to Airmen (NOTAMs) advising pilots of any changes relating to the extension.

In order for the FAA to exercise immediate jurisdiction over the expanded territorial sea, for purposes of regulations promulgated under Titles III and XII of the FAAct, this rule extends controlled airspace and extends the applicability of general flight rules to the airspace overlying the waters between 3 and 12 nautical miles from the U.S. coast. The rule adopted is limited to the amendment of certain sections of FAR Part 71, Designation of Federal Airways, Area Low Routes, Controlled Airspace, and Reporting Points; and FAR Part 91, General Operating and Flight Rules; all of which fall under Title III of the Act.

The FAA will consider the need, in view of the extension of FAAct applicability to 12 nautical miles from the U.S. coast, for additional rulemaking action to amend other Federal Aviation Regulations, including: Part 73, Special Use Airspace; Part 75, Establishment of Jet Routes and Area High Routes; Part 95, IFR Altitudes; Part 99, Security Control of Air Traffic; Part 101, Moored Balloons, Kites, Unmanned Rockets and Unmanned Free Balloons; Part 103, Ultralight Vehicles; and Part 105, Parachute Jumping. Other matters, such as the redesignation of Flight Information Region (FIR) boundaries, will also be considered at a later date.

The Rule

This action amends Parts 71 and 91 of the Federal Aviation Regulations to extend controlled airspace and the applicability of flight rules to the airspace overlying the waters between 3 and 12 nautical miles from the U.S. coast. Specifically, the Continental Control Area, as described in FAR Section 71.9, and the Continental and Alaska Positive Control Areas, as described in Section 71.193, are extended to 12 nautical miles from the U.S. coast. The existing exclusion of airspace in the Alaska Positive Control Area above the Alaska Peninsula west of longitude 160°0'00''W. is not affected, nor is the exclusion of airspace in the Continental Positive Control area over the Farallon Islands, and the portion south of latitude 25°04'00'' N.

The transition area in effect in the vicinity of the Hawaiian Islands is deemed sufficient for air traffic control in that region, and no change in controlled airspace in and around Hawaii is adopted at this time. Within airspace overlying the waters between 3 and 12 nautical miles from the U.S. coast that has not been designated controlled airspace, the FAA will exercise jurisdiction to the same extent as in uncontrolled airspace within the United States.

the newly designated area. For these reasons, I find that the notice and public procedure under 5 U.S.C. § 553(b) are impracticable and contrary to the public interest. For the same reasons, I find that good cause exists for making this rule effective in less than 30 days to coincide with the effectiveness of the Proclamation.

Regulatory Evaluation

Air traffic control (ATC) services are currently provided by the FAA in the nine-nautical mile strip of airspace affected by this rule. While the jurisdictional basis for the services is changed, there will be no change in the ATC services, and no impact on ATC system users. In this airspace, operators will be required to comply with FAA flight rules rather than ICAO Rules of the Air. The rules are similar for all effective purposes, and operators will incur no additional cost from compliance. Therefore, because the costs of the rule adopted are so minimal, a regulatory evaluation has not been prepared.

For the reasons set forth above, the FAA has determined that this action is not a "major rule" under Executive Order 12291. The rule is not considered a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979). Accordingly, because the costs of the rule adopted are virtually nonexistent, it is also certified that this rule will not have a significant economic impact on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

Federalism Determination

The amendment set forth herein would not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this regulation does not have federalism implications warranting the preparation of a Federalism Assessment.

Adoption of the Amendments

Accordingly, pursuant to the authority delegated to me, Parts 71 and 91 of the Federal Aviation Regulations (14 CFR Parts 71, 91) are amended, effective December 27, 1988.

The authority citation for Part 71 continues to read as follows:

Authority: 49 U.S.C. 1348(a), 1354(a), 1510; Executive Order 10854; 49 U.S.C. 106(g) (Revised Pub. L. No. 97–449, January 12, 1983); 14 CFR 11.69.

Amendment 71–13

Revision of General Operating and Flight Rules

Adopted: August 7, 1989 **Effective: August 18, 1990**

(Published in 54 FR 34284, August 18, 1989)

SUMMARY: This amendment reorganizes and realigns the general operating and flight rules to make them more understandable and easier to use. Also, several changes are made to provide more flexibility for certain operations. These changes result from comments received from the general public and aviation industry in response to a request for specific comments to help identify substantive areas needing review.

EFFECTIVE DATE: This amendment becomes effective on August 18, 1990, except that § 91.203(a)(2) becomes effective September 18, 1959, and remains numbered as § 91.27(a)(2) until August 18, 1990.

simpler and more comprehensible. In response to this petition, on January 11, 1979, the FAA issued an Advance Notice of Proposed Rulemaking (ANPRM) No. 79–2(44 FR 4572; January 22, 1979) consisting of a verbatim publication of AOPA's proposal.

The FAA received 106 comments in response to the ANPRM. An overwhelming majority of the commenters supported the intent of the proposal to reorganize Part 91. However, there were numerous problem areas identified by the commenters relating to the proposed changes that were considered substantive.

On November 18, 1980, the FAA formed a Part 91 Working Group to analyze the AOPA proposal and comments received on the ANPRM. It was determined that certain technical and administrative problems existed and that it was not feasible to undertake a substantive revision of Part 91 at that time. Subsequently, AOPA withdrew its petition. However, review of AOPA's proposal to reorganize and renumber Part 91 revealed that many of the changes had merit and could be implemented. The FAA Part 91 Working Group concluded that the reorganization and renumbering of Part 91 would be the first step to improve the regulation and make it more understandable and easier to use. Consequently, the FAA published NPRM No. 79–2A (46 FR 45256; September 10, 1981), which proposed to reorganize and realign the general operating and flight rules to make them more understandable and easier to use. Other proposals were made to delete redundancies and obsolete compliance dates and to make other minor changes.

Notice No. 79–2A did not contain any substantive changes; however, it did inform the public that the FAA considered that notice to be the first step in a regulatory review of Part 91 consistent with the objective of Executive Order 12291. With this in mind, the FAA invited additional specific comments to help identify substantive areas to be reviewed and possibly included in subsequent proposals concerning Part 91. The notice further stated that the FAA would not take final action concerning the reorganization until substantive changes were proposed and the public had been given an opportunity to comment on those proposals.

The FAA published Notice No. 79–2B (46 FR 60461; December 10, 1981) to extend the comment period for Notice No. 79–2A by 120 days. That notice was issued in response to a petition from the National Business Aircraft Association to allow additional time for commenters to prepare substantive comments.

The FAA received 69 comments in response to Notice No. 79–2A. The majority of these comments favored the proposal and were discussed in Notice No. 79–2C (50 FR 11292; March 20, 1985).

Notice 79–2C proposed four substantive changes in addition to the numerous changes made to reorganize and clarify existing rules. Two of these changes were made in response to comments received from the public. These changes are as follows:

(1) Section 91.117—Allows reciprocating-powered aircraft to be operated at 200 knots in an airport traffic area;

(2) Section 91.135—Allows operators desiring authorizations to deviate from positive control area and route segment requirements to utilize a 48-hour oral notification system;

(3) Section 91.409—Allows operators of turbine-powered rotorcraft to use an alternate inspection program, such as an FAA-approved inspection program; and

(4) Sections 91.205, 91.509, and 91.511—Defines "shore" as it is used in these sections to exclude tidal flats.

Public Comments

Forty-seven comments were received in response to Notice No. 79–2C. A number of commenters recommended regulations that were not proposed in the notice. Because such comments discuss matters which the public has not had an opportunity to consider, they are beyond the scope of the notice and

in the Rotorcraft Regulatory Review Program, Notice No. 5.

Two commenters are opposed to changing masculine references to "airman" to read "he or she." One commenter states that this would keep the text shorter and speed up the reading of the text. The other commenter states that § 1.3(a)(3) already provides that "words importing the masculine gender include the feminine," and the better course would be to refer to the "person," or the "pilot." The FAA agrees with these commenters. Accordingly, references throughout Part 91 that use the words "he" or "she" have been changed to refer to the "person," the "pilot," the "crewmember," or the "Administrator."

One commenter writes that the use of "pilot in command" and "PIC" is inconsistent in the proposed rules. The FAA agrees with this commenter and, accordingiy, has changed references to "PIC" in §§ 91.123(a) and 91.129(h) to "pilot in command" to make their use consistent throughout Part 91. A commenter suggests that all references to distances expressed in miles should state whether they are statute or nautical miles. The FAA agrees that such references should be clear. Accordingly, references to distance expressed in miles in §§ 91.171(b)(4)(ii) and 91.207(e)(3) are changed by adding the word "nautical" to reflect that the distances are expressed in nautical miles since they reference ground-measured distance. References to visibilities in §§ 91.155(b), 91.167(b)(2)(ii), and 91.303(e) are changed by adding the word "statute" to reflect that visibilities are expressed in statute miles.

Several commenters state that the proposed wording for § 91.1 implies that operations of moored balloons, kites, unmanned rockets, and unmanned free balloons are governed by Part 103. This comment has merit and § 91.1 is revised by adding a specific reference to Part 101 after the phrase "unmanned free balloons" to make clear that moored balloons, kites, unmanned rockets, and unmanned free balloons operate under Part 101.

Another commenter requests clarification of the discussion of § 91.7 in Notice No. 79–2C, where the FAA states that there is no provision for the use of an approved Minimum Equipment List (MEL) in Part 91 operations, whereas § 91.213 permits the use of an approved MEL. The FAA points out that at the time Notice No. 79–2C was published, the effective date of current § 91.30 (proposed § 91.213) was stayed indefinitely (44 FR 62884; November 1, 1979). Amendment No. 91–192 (50 FR 51188; December 13, 1985) which took effect on March 13, 1986, terminated the stay.

Section 91.7(b), which was proposed without substantive change from existing § 91.29, provides that a flight should be discontinued when unairworthy mechanical or structural conditions occur. One commenter suggests that this be changed by deleting "mechanical or structural" and making it more general so as to provide for a possible unairworthy electrical system. This suggestion raises a valid point; however, the FAA has determined that the rule should be amended to explicitly reference mechanical, electrical, or structural conditions. Therefore, § 91.7(b) is amended accordingly.

As suggested by one commenter, § 91.21(a)(1) is amended by deleting reference to a "commercial operator." This revision conforms § 91.21(a)(1) with SFAR 38–2 and Part 125 which do not provide for a commercial operator's certificate and, instead, provide for the issuance of either an "air carrier operating certificate" or an "operating certificate."

One commenter states that consideration should be given to better defining "appropriately rated pilot" in § 91.109 and provide a definition. The FAA agrees that the phrase "appropriately rated pilot" should be defined better.

The preamble to Amendment No. 91–36(32 FR 260; January 11, 1967) states that an "appropriately rated pilot" in § 91.21(b) requires a private pilot certificate with an airplane category rating, a multiengine class rating for a small multiengine land plane, and a type rating for a large airplane or a turbojet-powered airplane (large or small).

Accordingly § 91.109(b)(1) is amended to require that the safety pilot hold at least a private pilot certificate with category and class ratings appropriate to the aircraft being flown.

to identify the VDP.

For these reasons, the final rule, like the NPRM, does not include a mandatory VDP requirement.

Notice No. 79–2C proposed that § 91.175(a) read: "Unless otherwise authorized by ATC, when an instrument letdown to a civil airport is necessary, each person operating an aircraft, except a military aircraft of the United States, shall use a standard instrument approach procedure prescribed for the airport in Part 97 of this chapter." The lead-in clause is changed to read, "Unless otherwise authorized by the Administrator," because ATC does not have the authority to approve a person's non-compliance with this rule.

Several commenters raise objections to proposed § 91.203(a)(2), which would prevent an aircraft from operating outside of the United States under the temporary authority of the pink copy of the Aircraft Registration Application as provided in § 47.31(b). The commenters assert that the proposal is a substantive change and not a clarification of the present rule; and that the FAA should consider the economic impact on the industry, the consumers, and the historical precedence of past practices. These commenters suggest that the FAA withdraw the proposal and acknowledge the pink copy of the application as a temporary certificate of registration.

Another commenter is of the opinion that the FAA has not provided discussion, as required by Executive Order 12291, on the economic impacts that would result from the delay between application for an issuance or denial of the registration certificate, under the proposals, in the NPRM. The commenter maintains that future investment purchases and leases would also be adversely affected. Several commenters also question the regulatory consistency that the FAA claims as the basis for the change.

These comments were responded to in full in a Notice of Legal Opinion issued December 1988 (53 FR 50208; December 14, 1988). That Notice of Legal Opinion stated that the limitation of temporary authority to operate an aircraft without registration to domestic operations (as also provided in new § 91.203(a)(2)) reflects current U.S. law and practice. Concerning the economic impact of this ruling, the FAA in that Notice of Legal Opinion answered:

> The aviation community has always been able to transfer ownership and register their aircraft with minimal difficulty. In order to mitigate the potential hardship that could result from grounding an aircraft used in international operations, pending receipt of a registration certificate, the Registry will, upon request, telex a copy of the Certificate of Aircraft Registration to the individual whose name appears on the application as the registered owner of the aircraft. The telex copy is issued after confirmation of the information contained on an Aircraft Registration Application and determination of eligibility for registration. The telex, which reflects critical and verified information resulting from the evaluation by the Registry of an application for aircraft registration, may be used as a temporary Certificate of Aircraft Registration until the original certificate is forwarded for carriage in the aircraft.
>
> This telex certificate will assist owners who submit an application for aircraft registration and who wish to operate the aircraft as soon as possible in international operations. Since the telex, by its terms, is a form of registration certificate, the aircraft may be operated in international air navigation consistent with Article 29 of the Convention [Convention on International Civil Aviation (61 Stat. 1180; T.I.A.S. 1591; 15 U.N.T.S. 295)]. The Registry will telex this copy within a matter of days—often within 48 hours—to be kept in the aircraft until the original Certificate of Aircraft Registration (AC Form 8050–3) is forwarded to the registered owner.

Accordingly, the FAA has determined that the rule should be amended as proposed, and consistent with the Chief Counsel's legal opinion, to provide explicitly that operations of aircraft outside the United States for which an application for registration has been submitted but certificate of registration has not been issued are not authorized under the Federal Aviation Regulations.

Several judicial decisions have defined the "shore" as including tidal flats. In some parts of the United States, these tidal flats can extend for several miles and, because of the extreme tides prevalent in these areas, the land may be submerged under as much as 25 to 35 feet of water during periods

In addition to the specific changes discussed above, minor changes have been made in the wording of the regulations proposed in Notice No. 72–2C. In § 91.3(b), the word "in-flight" has been inserted to clarify that the deviation authority of § 91.3 applies only to in-flight emergencies which affect the safe completion of the flight.

The original intent of § 91.3 was to allow the pilot in command to deviate from certain regulations in the event of an in-flight emergency. Over time, regulations involving non-flight items were inserted into Subparts A and B, while flight-related regulations were inserted in other Subparts. Therefore, the word "in-flight" is being added to return the language to its original intent.

Other changes are nonsubstantive in nature. Except for such minor revisions, those parts of the proposal for which there were no comments are adopted as proposed. Finally, all other sections of Part 91 remain unchanged except for renumbering (see the cross-reference lists below).

Several amendments to Part 91 adopted since Notice No. 79–2C were published are reflected in the final rule. Where reference to other sections of this part were set forth in an amendment, the references have been changed to reflect the appropriate sections as used in the final rule. Those required changes published in the Federal Register prior to June 19, 1989, are discussed below.3

Amendment No. 91–188, (50 FR 15380; April 17, 1985) amended current § 91.11, which governs the use of alcohol or drugs by any crewmember performing duty during the operation of an aircraft. This amendment took effect on June 17, 1985. Subsequently, Amendment No. 91–194 (51 FR 1229; January 9, 1986) amended § 91.11(c) to impose a requirement for a crewmember to furnish the results of any test that indicates percentage by weight of alcohol in a crewmember's blood. This amendment took effect on April 9, 1986. Proposed § 91.17 has been revised accordingly.

Amendment No. 91–189 (50 FR 31588; August 5, 1985) removed references to "expect approach clearance time" in § 91.127. This amendment took effect on September 4, 1985. Section 91.185 reflects this amendment.

Amendment No. 91–190 (50 FR 45602; November 1, 1985) added a new paragraph (c) to current § 91.24. This amendment took effect on December 2, 1985. This new paragraph required all aircraft equipped with an operable radar beacon transponder be turned on while airborne in controlled airspace. Subsequently, § 91.24(c) was amended by Amendment No. 91–203 (53 FR 23374; June 21, 1988). Proposed § 91.215(c) has been redesignated as paragraph (d) and the changes brought about by Amendment Nos. 91–190 and 91–203 have been incorporated into revised § 91.215(c).

Amendment No. 91–191 (50 FR 46877; November 13, 1985) amended current § 91.14 (proposed § 91.107) by revising the title and the section to include reference to shoulder harnesses. This amendment took effect on December 12, 1985. Section 91.107 has been revised accordingly. Amendment No. 91–191 also added a new paragraph to current § 91.33 which requires a shoulder harness for specified seats in normal, utility, and acrobatic category airplanes with a seating configuration, excluding pilot seats, of nine or less, manufactured after December 12, 1986. This paragraph appears as § 91.205(b)(15).

Amendment No. 91–192 (50 FR 51189; December 13, 1985) terminated the suspension of Amendment No. 91–157 (44 FR 43714; July 26, 1979) staying the effective date of current § 91.30. This amendment took effect on March 31, 1986. Subsequently, Amendment No. 206 (53 FR 5019; December 13, 1988) amended § 91.30. Section 91.213 reflects these amendments.

Amendment No. 91–193 (50 FR 51193; December 13, 1985) changed the FAA's description of North Atlantic (NAT) Minimum Navigation Performance Specifications (MNPS) airspace to coincide with the International Civil Aviation Organization's (ICAO's) description of the NAT MNPS airspace. This has been reflected accordingly in Section 1 of Appendix C of this final rule.

Amendment No. 91–195 (51 FR 31098; September 2, 1986) corrects the reference to the Department of Defense office in current § 91.102 restricting the flight of aircraft near space flight operations. This amendment took effect on September 15, 1986. Section 91.143 reflects this amendment.

it appears.

Amendment No. 91–197 (52 FR 1836; January 15, 1987) revises the authority citation for Part 91 and adds a new paragraph to current § 91.213 which states that a commuter category airplane must have a pilot designated as second in command, unless the airplane has a passenger seating configuration, excluding pilot seats, of nine or less seats, and is type certificated for operations with one pilot. This amendment took effect on February 17, 1987. This rule now appears as § 91.531(a)(3).

Amendment No. 91–198, (52 FR 3391; February 3, 1987) amended current § 91.24(a) and (b) on ATC transponder and altitude reporting equipment and use. This amendment took effect on April 6, 1987. Subsequently, Amendment No. 91–203 (53 FR 23374; June 21, 1988) amended § 91.24(b) and (c) and Amendment No. 91–210 (54 FR 25682; June 16, 1989) revised § 91.24(a).

Proposed § 91.215 has been revised accordingly. Amendment No. 91–198 also revised paragraph (b)(2)(iii) of current § 91.90 to allow operations conducted prior to December 1, 1987, in Group II TCAs, to be exempt from the new equipment requirements of current § 91.24. Amendment No. 91–203 (53 FR 23374; June 21, 1988) subsequently revised § 91.90, effective July 21, 1988. Amendment No. 91–205 (53 FR 40323; October 14, 1988) further revised § 91.90 in its entirety effective January 12, 1989. Amendment No. 90–209 (54 FR 24883; June 9, 1989) amended § 91.90 by delaying the effective date of the section for helicopter operations. The rule, covering all amendments to date, appears in this revision as § 91.131.

Amendment No. 91–199, (52 FR 9636; March 25, 1987) amended current § 91.35 by renumbering the paragraphs and adding a new paragraph that requires any operator who has installed approved flight recorders and approved cockpit voice recorders to keep the recorded information for at least 60 days, or longer, if requested by the Administrator or the National Transportation Safety Board. This amendment took effect on May 26, 1987. The amended rule now appears as § 91.609.

Amendment No. 91–200, (52 FR 17277; May 6, 1987) amended current § 91.173 by requiring each registered aircraft owner or operator to keep "preventive maintenance" records as well as maintenance, alteration, and records of the 100-hour annual, progressive, and other required or approved inspections, as appropriate, for each engine, propeller, rotor, and appliance of an aircraft. This amendment took effect on June 5, 1987. This amended rule now appears as § 91.417(a)(1).

Amendment No. 91–201, (52 FR 20028; May 26, 1987) adds the reference to Part 129 to the exception in current § 91.161(b) from the requirements of §§ 91.165, 91.169, 91.171, 91.173, and 91.174 for aircraft maintained in accordance with a continuous maintenance program as provided for in Part 129. The amendment took effect on August 25, 1987. This amended rule now appears as § 91.401(b).

Amendment No. 91–202; (52 FR 34102; September 9, 1987 and 52 FR 35234; September 18, 1987) amended current § 91.27 on civil aircraft certification requirements by adding a new paragraph (c) to require that a copy of the form which authorized the alteration of an aircraft with fuel tanks within the passenger or a baggage compartment be kept on board the modified aircraft. This new rule now appears as § 91.203(c). Current § 91.173 on maintenance records was revised by requiring that such records be made available to the Administrator or an authorized representative of the National Transportation Safety Board and when such a fuel tank is installed as set forth in § 91.35 as amended pursuant to Part 43, a copy of the FAA Form 337 be kept on board the modified aircraft. This new rule appears as § 91.417(b) and (c). This amendment took effect on December 8, 1987.

Amendment No. 91–203, (53 FR 23374; June 21, 1988, 53 FR 25050; July 1, 1988, and 53 FR 26592; July 14, 1988) amended or revised § 91.24 (ATC transponder and altitude reporting equipment and use), 91.88 (Airport radar service areas), and 91.90 (Terminal control areas), and by adding a new Appendix D entitled "Airports/Locations Where the Transponder Requirements of § 91.24(b)(5)(ii) Apply," regarding use of transponders with automatic altitude reporting. This amendment took effect on July 21, 1988. Amendment No. 91–205 (53 FR 40323; October 14, 1988) revised § 91.90 in its entirety

Amendment No. 91–205 (53 FR 40325; October 14, 1988) revised the classification and pilot and equipment requirements for conducting operations in terminal control areas (TCA's) by amending § 91.90 to establish a single-class TCA; require the pilot-in-command of a civil aircraft to hold at least a private pilot certificate, except for a student pilot who has received certain documented training; and, to eliminate the helicopter exception from the minimum equipment requirement. The amendment was effective on January 12, 1989. Subsequently, Amendment No. 91–209 (54 FR 24883; June 9, 1989) amended § 91.90(c)(1) by delaying the application of the section for helicopter operations for one year. Revised § 91.131 covers these amendments.

Amendment No. 91–206 (53 FR 50195; December 13, 1988) amended § 91.30 to permit rotorcraft, nonturbine-powered airplanes, gliders, and lighter-than-air aircraft, for which an approved Master Minimum Equipment List has not been developed, to be operated with inoperative instruments and equipment not essential for the safe operation of the aircraft. The amendment also permits general aviation operators of small rotorcraft, nonturbine powered small airplanes, gliders, and lighter-than-air aircraft for which a Master Minimum Equipment List has been developed, the option of operating under the minimum equipment list concept, or under other conditions as set forth in the amendment. Amendment No. 91–206 also amended 91.165 to require that any inoperative instrument or item of equipment permitted to be inoperative under the new amended § 91.30 to be repaired, replaced, removed, or inspected at the next required inspection for the aircraft. These amendments became effective on December 13, 1988, and appear as §§ 91.213 and 91.405 of this revision to Part 91.

Amendment No. 91–207 (54 FR 265; January 4, 1989) amended §§ 91.1 and 91.61 to extend the controlled airspace and the applicability of certain air traffic rules to coincide with presidential action to extend the territorial sea of the United States for international purposes, from 3 to 12 nautical miles from the U.S. coast. This amendment became effective on December 27, 1988. These amended rules now appear as §§ 91.1 and 91.101.

Amendment No. 91–208 (54 FR 950; January 10. 1989) added a new § 91.26 to require that any traffic alert and collision avoidance system installed in a U.S. registered civil aircraft must be approved by the Administrator, and if installed, must be on and operating during the aircraft's operation. The amendment became effective on February 9, 1989. The amendment appears herein as §§ 91.221.

Amendment No. 91–209 (54 FR 24883; June 9, 1989) delays the effective date of certain navigational equipment requirements of helicopter operations in a Terminal Control Area (TCA) by the amendment of § 91.90(c)(1). The amendment became effective on June 6, 1989. Section 91.131 covers this amendment.

Amendment No. 91–210 (54 FR 25682; June 16, 1989), effective June 16, 1989, amended § 91.24(a) to allow certain aircraft operators to install non-Mode S transponders in aircraft until July 1, 1992, instead of until January 1, 1992, provided that such transponders are manufactured prior to January 1, 1991, instead of prior to January 1, 1990. This amendment appears as § 91.215(a).

References to Part 91 found in other sections of the Federal Aviation Regulations have also been amended to incorporate the revised numbering of Part 91. These miscellaneous amendments are found at the end of the amendments to Part 91.

Furthermore, §§ 91.615 through 91.645 as identified in Notice No. 79–2C (50 FR 11292; March 20. 1985) now appear in this final rule as §§ 91.503 through 91.533.

Regulatory Evaluation

FAA analysis indicates that these amendments will not have a significant impact on the public or any level of government on an annual basis. The final rule includes changes to clarify the existing rules by simplifying the language, deleting obsolete requirements, consolidating similar regulations, updating equipment requirements to reflect the state-of-the-art, and relaxing certain operating and flight rule requirements.

Section 91.135 provides for a 2-day advance oral notification for submitting requests for authorizations to deviate from positive control area and route segment requirements. The old rule required a 4-day advance written notification of the proposed operation to ATC. A request for an authorization to deviate from these requirements is an infrequent occurrence. Consequently, the new rule will have minor benefits in terms of cost savings.

Sections 91.205, 91.509, and 91.511 clarify the definition of "shore" as that area of land adjacent to the water which is above the high water mark, thereby excluding tidal flats. From a safety standpoint, a tidal area covered with water is not as safe an emergency landing place as a dry shoreline. The main benefit is improved survivability from accidents in areas where for-hire operators may not be in compliance with the intent of the present rule. There is insufficient information in accident records to be able to estimate how many deaths could have been avoided through the use of life jackets and pyrotechnic signaling devices in these instances.

Costs

Any cost associated with defining "shore" in § 91.205 as the high water line is expected to be negligible. The only parties potentially affected are small for-hire operators who do not comply with the obvious intention of the rule as presently worded. The FAA believes these operators are very few (probably less than 20 operators) in number. Such operators are likely to be traversing tidal flats in areas like Alaska. If such operators do not comply with the rule as written now, then the cost of compliance would be a maximum of about $105 per year per aircraft. This assumes a $50 cost for an approved flotation device per seat and a flotation device useful life of 5 years ($10 per passenger seat per year), 10 seats per aircraft for these specific operators, plus $5 per year per aircraft for a pyrotechnic signaling device.

Section 91.409 allows operators of turbine-powered rotorcraft to use alternate inspection programs such as inspections under an FAA-approved continuous airworthiness maintenance program. The operators may now schedule inspections in a manner that allows the highest level of utilization of their rotorcraft.

The FAA estimates that in 1984 there were approximately 3,000 active turbine-powered rotorcraft in non-air taxi use. The FAA assumes that about one-half of the operators of these aircraft would use the new inspection options.

The value of using these options is difficult to estimate. At a minimum, the major effect of this proposed rule would be one additional day per year of rotorcraft utility. The usefulness of this can be set at least at the cost of capital for 1 day. Using an average aircraft value of $300,000 and a use of 250 days per year, the cost of capital can be estimated at $180 per day ($300,000 at 15 percent interest divided by 250 days). Thus, the minimum benefit is approximately $0.27 million per year (half the fleet, 1500 turbine-powered rotorcraft times $180). As the fleet grows, the value of this benefit also increases.

Because of the reorganization and resulting renumbering of provisions, persons who regularly refer to existing Part 91 must familiarize themselves with the new structure. It is also recognized that many non-regulatory materials containing references to present Part 91 sections may have to be modified. To assist in reference to the new provisions, a redesignation table, similar to the cross-reference table published herein, will be included in subsequent editions of the Code of Federal Regulations. The FAA believes that any short-term costs associated with transition to the reorganized Part 91 will be outweighed by the benefits inherent in a more logically organized set of regulations.

Traffic Impact

The FAA has determined that this regulation will have no impact on international trade.

approximately $100 per aircraft per year, and would affect only a few small for-hire operators in Alaska who do not comply with the intent of the rule as presently worded. Thus, the change could not be construed to cause "significant economic impact on a substantial number" of small entities within the meaning of the RFA. Therefore, this rule will not have a significant economic impact on a substantial number of small entities.

Conclusion

The FAA has determined that this document is not considered major under Executive Order 12291 or significant under Department of Transportation Regulatory Policies and Procedures (44 FR 11034; February 26, 1979). It causes only four minor changes, three of which will provide benefits with no additional costs to the aviation public. The fourth will impose negligible costs which are substantially outweighed by the benefits provided. Other amendments provide general benefits by deleting obsolete requirements, relaxing certain operating and flight rule requirements, and updating and clarifying the text. Under the provisions of Executive Order 12291, the amendments in this final rule will not have a major economic effect on consumers; industries; Federal, State, or local government agencies; or geographic regions. There will be no significant effects on competition, employment, investment, productivity, innovations, or the ability of U.S.-based enterprises to compete with foreign-based enterprises in domestic or import markets. It is certified that under the criteria of the Regulatory Flexibility Act this final rule will not have a significant economic impact on a substantial number of small entities. A copy of the full economic evaluation is filed in the public docket and may be obtained by contacting the person listed in the "FOR FURTHER INFORMATION CONTACT" paragraph of this document.

CROSS REFERENCE

To identify where present regulations are relocated in the new rule, the following cross-reference lists are provided:

Cross Reference Table

Old Section	New Section
91.1	91.1 and 91.703
91.2	91.193
91.3	91.3
91.4	91.5
91.5	91.103
91.6	91.189
91.7	91.105
91.8	91.11
91.9	91.13
91.10	91.13
91.11	91.17
91.12	91.19
91.13	91.15
91.14	91.107
91.15	91.307
91.17	91.309
91.18	91.311
91.19	91.21
91.20	91.705
91.21	91.109
91.22	91.151
91.23	91.167
91.24	91.215
91.25	91.171

91.34	91.191
91.35	91.609
91.36	91.217
91.37	91.605
91.38	91.323
91.39	91.313
91.40	91.315
91.41	91.317
91.42	91.319
91.43	91.711
91.45	91.611
91.47	91.607
91.49	91.603
91.50	Deleted
91.51	91.219
91.52	91.207
91.53	Deleted
91.54	91.23
91.55	91.817
91.56	91.815
91.57	91.25
91.58	91.613
91.59	91.321
91.61	91.101
91.63	91.903
91.65	91.111 and 91.123
91.67	91.113
91.69	91.115
91.70	91.117
91.71	91.303
91.73	91.209
91.75	91.123
91.77	91.125
91.79	91.119
91.81	91.121
91.83	91.153 and 91.169
91.84	91.707
91.85	91.127
91.87	91.129
91.88	91.130
91.89	91.127
91.90	91.131
91.91	91.137
91.93	91.305
91.95	91.133
91.97	91.135
91.100	91.139
91.101	91.709
91.102	91.143
91.103	91.713
91.104	91.141
91.105	91.155
91.107	91.157
91.109	91.159
91.115	91.173
91.116	91.175
91.117	Deleted
91.119	91.177

91.167	91.407
91.169	91.409
91.170	91.415
91.171	91.411
91.172	91.413
91.173	91.417
91.174	91.419
91.175	91.421
91.181	91.501
91.183	91.503
91.185	91.505
91.187	91.507
91.189	91.509
91.191	91.511
91.193	91.513
91.195	91.515
91.197	91.517
91.199	91.519
91.200	91.521
91.201	91.523
91.203	91.525
91.205	Deleted
91.207	Deleted
91.209	91.527
91.211	91.529
91.213	91.531
91.215	91.533
91.301	91.801
91.302	91.803
91.303	91.805
91.305	91.807
91.306	91.809
91.307	91.811
91.308	91.813
91.309	91.819
91.311	91.821
Appendix A	Appendix A
Appendix B	Appendix B
Appendix C	Appendix C
Appendix D	Appendix D
Appendix E	Appendix E
Appendix F	Appendix F

Cross Reference Table

New Section	Old Section
91.1	91.1
91.3	91.3
91.5	91.4
91.7	91.29
91.9	91.31
91.11	91.8
91.13	91.9 and 91.10
91.15	91.13
91.17	91.11
91.19	91.12

91.111	91.65
91.113	91.67
91.115	91.69
91.117	91.70
91.119	91.79
91.121	91.81
91.123	91.75 and 91.65
91.125	91.77
91.127	91.85 and 91.89
91.129	91.87
91.130	91.88
91.131	91.90
91.133	91.95
91.135	91.97
91.137	91.91
91.139	91.100
91.141	91.104
91.143	91.102
91.151	91.22
91.153	91.83
91.155	91.105
91.157	91.107
91.159	91.109
91.167	91.23
91.169	91.83
91.171	91.25
91.173	91.115
91.175	91.116
91.177	91.119
91.179	91.121
91.181	91.123
91.183	91.125
91.185	91.127
91.187	91.129
91.189	91.6
91.191	91.34
91.193	91.2
91.201	New
91.203	91.27
91.205	91.33
91.207	91.52
91.209	91.73
91.211	91.32
91.213	91.30
91.215	91.24
91.217	91.36
91.219	91.51
91.221	91.26
91.301	New
91.303	91.71
91.305	91.93
91.307	91.15
91.309	91.17
91.311	91.18
91.313	91.39
91.315	91.40
91.317	91.41
91.319	91.42

91.411	91.171
91.413	91.172
91.415	91.170
91.417	91.173
91.419	91.174
91.421	91.175
91.501	91.181
91.503	91.183
91.505	91.185
91.507	91.187
91.509	91.189
91.511	91.191
91.513	91.193
91.515	91.195
91.517	91.197
91.519	91.199
91.521	91.200
91.523	91.201
91.525	91.203
91.527	91.209
91.529	91.211
91.531	91.213
91.533	91.215
91.601	New
91.603	91.49
91.605	91.37
91.607	91.47
91.609	91.35
91.611	91.45
91.613	91.58
91.701	New
91.703	91.1
91.705	91.20
91.707	91.84
91.709	91.101
91.711	91.43
91.713	91.103
91.715	91.28
91.801	91.301
91.803	91.302
91.805	91.303
91.807	91.305
91.809	91.306
91.811	91.307
91.813	91.308
91.815	91.56
91.817	91.55
91.819	91.309
91.821	91.311
91.901	New
91.903	91.63
91.905	New
Appendix A	Appendix A
Appendix B	Appendix B
Appendix C	Appendix C
Appendix D	Appendix D
Appendix E	Appendix E
Appendix F	Appendix F

THE RULE

For the reasons set forth above, Part 91 of the Federal Aviation Regulations (14 CFR Part 91) is revised and Parts 1, 21, 23, 25, 27, 31, 33, 35, 36, 43, 45, 47, 61, 63, 65, 71, 93, 99, 103, 121, 125, 127, 133, 135, 137, and 141 of the Federal Aviation Regulations (14 CFR Parts 1, 21, 23, 25, 27, 31, 33, 35, 36, 43, 45, 47, 61, 63, 65, 71, 93, 99, 103, 121, 125, 127, 133, 135, 137, and 141) are amended effective August 18, 1990.

The authority citation for Part 71 continues to read as follows:

Authority: 49 U.S.C. 1348, 1354(a), 1510; Executive Order 10854; 49 U.S.C. 106(g) (Revised Pub. L. 97–449, January 12, 1983); 14 CFR 11.69.

(Published in 56 FR 65638, December 17, 1991)

SUMMARY: This final rule amends the Federal Aviation Regulations (FAR) to adopt certain recommendations of the National Airspace Review (NAR) concerning changes to regulations and procedures in regard to airspace classifications. These changes are intended to: (1) simplify airspace designations; (2) achieve international commonality of airspace designations; (3) increase standardization of equipment requirements for operations in various classifications of airspace; (4) describe appropriate pilot certificate requirements, visual flight rules (VFR) visibility and distance from cloud rules, and air traffic services offered in each class of airspace; and (5) satisfy the responsibilities of the United States as a member of the International Civil Aviation Organization (ICAO). The final rule also amends the requirement for minimum distance from clouds in certain airspace areas and the requirements for communications with air traffic control (ATC) in certain airspace areas; eliminates airport radar service areas (ARSAs), control zones, and terminal control areas (TCAs) as airspace classifications; and eliminates the term "airport traffic area." The FAA believes simplified airspace classifications will reduce existing airspace complexity and thereby enhance safety.

EFFECTIVE DATES: These regulations become effective September 16, 1993, except that §§ 11.61(c), 91.215(b) introductory text, 91.215(d), 71.601, 71.603, 71.605, 71.607, and 71.609 and Part 75 become effective December 12, 1991, and except that amendatory instruction number 20, § 71.1, is effective as of December 17, 1991 through September 15, 1993, and that §§ 71.11 and 71.19 become effective October 15, 1992. The incorporation by reference of FAA Order 7400.7 in § 71.1 (amendatory instruction number 20) is approved by the Director of the Federal Register as of December 17, 1991 through September 15, 1993. The incorporation by reference of FAA Order 7400.9 in § 71.1 (amendatory instruction number 24) is approved by the Director of the Federal Register as of September 16, 1993 through September 15, 1994.

FOR FURTHER INFORMATION CONTACT: Mr. William M. Mosley, Air Traffic Rules Branch, ATP–230, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, D.C. 20591, telephone (202) 267-9251.

SUPPLEMENTARY INFORMATION:

Background

On April 22, 1982, the NAR plan was published in the *Federal Register* (47 FR 17448). The plan encompassed a review of airspace use and the procedural aspects of the ATC system. Organizations participating with the FAA in the NAR included: Aircraft Owners and Pilots Association (AOPA), Air Line Pilots Association (ALPA), Air Transport Association (ATA), Department of Defense (DOD), Experimental Aircraft Association (EAA), Helicopter Association International (HAI), National Association of State Aviation Officials (NASAO), National Business Aircraft Association (NBAA), and Regional Airline Association (RAA).

The main objectives of the NAR were to:

(1) Develop and incorporate a more efficient relationship between traffic flows, airspace allocation, and system capacity in the ATC system. This relationship will involve the use of improved air traffic flow management to maximize system capacity and to improve airspace management.

(2) Review and eliminate, wherever practicable, governmental restraints to system efficiency thereby reducing complexity and simplifying the ATC system.

(3) Revalidate ATC services within the National Airspace System (NAS) with respect to state-of-the-art and future technological improvements.

by ICAO, along with the nearest equivalent U.S. airspace designations, are summarized as follows:

Class A Airspace (U.S. Positive Control Areas). All operations must be conducted under instrument flight rules (IFR) and are subject to ATC clearances and instructions. ATC separation is provided to all aircraft.

Class B Airspace (U.S. Terminal Control Areas). Operations may be conducted under IFR, special visual flight rules (SVFR), or VFR. However, all aircraft are subject to ATC clearances and instructions. ATC separation is provided to all aircraft.

Class C Airspace (U.S. Airport Radar Service Areas). Operations may be conducted under IFR, SVFR, or VFR; however, all aircraft are subject to ATC clearances and instructions. ATC separation is provided to all aircraft operating under IFR or SVFR and, as necessary, to any aircraft operating under VFR when any aircraft operating under IFR is involved. All VFR operations will be provided with safety alerts and, upon request, conflict resolution instructions.

Class D Airspace (U.S. Control Zones for Airports with Operating Control Towers and Airport Traffic Areas that are not associated with a TCA or an ARSA). Operations may be conducted under IFR, SVFR, or VFR; however, all aircraft are subject to ATC clearances and instructions. ATC separation is provided to aircraft operating under IFR or SVFR only. All traffic will receive safety alerts and, on pilot request, conflict resolution instructions.

Class E Airspace (U.S. General Controlled Airspace). Operations may be conducted under IFR, SVFR, or VFR. ATC separation is provided only to aircraft operating under IFR and SVFR within a surface area. As far as practical, ATC may provide safety alerts to aircraft operating under VFR.

Class F Airspace (U.S. Has No Equivalent). Operations may be conducted under IFR or VFR. ATC separation will be provided, so far as practical, to aircraft operating under IFR.

Class G Airspace (U.S. Uncontrolled Airspace). Operations may be conducted under IFR or VFR. ATC separation is not provided.

Discussion of the Amendments and Public Comments

This final rule is based on Notice of Proposed Rulemaking (NPRM) No. 89–28 (54 FR 42916; October 18, 1989). The rule amends Parts 1, 11, 45, 61, 65, 71, 75, 91, 93, 101, 103, 105, 121, 127, 135, 137, 139, and 171 and Special Federal Aviation Regulations (SFAR) 51-1, 60, and 62. These parts either incorporate airspace designations and operating rules or amend the existing rule to meet the new classification language.

Amendments to Part 1 delete the definition of an ''airport traffic area'' and add definitions of ''Special VFR conditions'' and ''Special VFR operations.''

The amendments to Part 71 establish a new Subpart M—Jet Routes and Area High Routes that includes the existing rules in Part 75 as of *December 17, 1991*; revise §§ 71.11 and 71.19 as of October 15, 1992; and revise all of Part 71 to reclassify U.S. airspace in accordance with the ICAO designations as of September 16, 1993. (Further information on the amendments to Part 71 appears in this discussion under *Revisions to Part 71.*) Under this amendment the positive control areas (PCAs), jet routes, and area high routes are reclassified as Class A airspace areas; TCAs are reclassified as Class B airspace areas; ARSAs are reclassified as Class C airspace areas; control zones for airports with operating control towers and airport traffic areas that are not associated with the primary airport of a TCA or an ARSA are reclassified as Class D airspace areas; all Federal airways, the Continental Control Area, control areas associated with jet routes outside the Continental Control Area, additional control areas, control area extensions, control zones for airports without operating control towers, transition areas, and area low routes are reclassified as Class E airspace areas; and airspace which is not otherwise designated as the Continental Control Area, a control area, a control zone, a terminal control area, an airport radar

of the current requirements of 500 feet below, 1,000 feet above, and 2,000 feet horizontal from clouds in TCAs.

Section 91.215 is amended by relaxing current restraints on ATC in authorizing deviations to operators of aircraft that are not equipped with transponders. The amendment clarifies that the ATC facility having jurisdiction over the airspace concerned is permitted to authorize deviations from the transponder requirements in § 91.215(b) and that a request for a deviation due to an inoperative transponder or an operating transponder without operating automatic pressure altitude reporting equipment having Mode C capability may be made at any time. To provide maximum flexibility to ATC and aircraft operators, this amendment has an effective date of December 12, 1991.

Amendments to Parts 11, 45, 61, 65, 93, 101, 103, 105, 121, 127, 135, 137, 139, and 171 change the terminology to integrate the adopted airspace classifications into respective regulations that refer to those airspace assignments and operating rules. In addition, § 11.61(c) is amended to meet an administrative change within the FAA for titles of persons under the term "Director."

The final rule includes modifications to the proposed rules based on amendments to the FAR that have become effective since the publication of NPRM No. 89–28. The section numbers to Part 91 are changed to match the section numbers designated by Amendment No. 91–211, Revision of General Operating and Flight Rules (54 FR 34292; August 19, 1989). Sections 91.129 and 91.130 are modified to include revisions to § 91.130 by Amendment No. 91–215, Airport Radar Service Area (ARSA) Communication Requirement (55 FR 17736; April 26, 1990). Section 91.131(c) is modified to include revisions from Amendment No. 91–216, Navigational Equipment Requirement in a Terminal Control Area (TCA) and Visual Flight Rules (VFR) Operations (55 FR 24822; June 18, 1990). Section 91.117(a) is modified to include revision by Amendment No. 91–219, Revision to General Operating and Flight Rules (55 FR 34707; August 24, 1990).

Section 91.155(b)(1) is modified to include a revision by Amendment No. 91–224, Inapplicability of Basic VFR Weather Minimums for Helicopter Operations (56 FR 48088; September 23, 1991). Section 91.155(c) was revised by Amendment No. 91-213, Night-Visual Flight Rules Visibility and Distance from Cloud Minimums (55 FR 10610; March 22, 1990) and was corrected on July 19, 1990 (55 FR 29552) and November 13, 1990 (55 FR 47309).

In this amendment, the FAA does not adopt the proposal to lower the Continental Control Area to 1,200 feet above the surface and to establish the United States Control Area as proposed in NPRM No. 88–2. The FAA will not adopt this proposal and the regulatory agenda will be revised to delete the U.S. Control Area project.

On October 4, 1990, the FAA established SFAR No. 60—Air Traffic Control System Emergency Operations (55 FR 40758) and on December 5, 1990, the FAA established SFAR No. 62—Suspension of Certain Aircraft Operations from the Transponder with Automatic Pressure Altitude Reporting Capability Requirement (55 FR 50302). These SFARs are revised by replacing references to such terms as "terminal control area" with "Class B airspace area" to integrate the appropriate airspace classification.

Obsolete clauses in the existing rule are deleted and typographical errors in the proposal are corrected. The final rule also revises affected paragraphs of the existing rule requiring modification as a result of the rulemaking action but not included in NPRM No. 89–28. The modifications to these paragraphs replace such terms as "terminal control area" and "control zone" with language to integrate the appropriate airspace classification.

Under airspace reclassification, the Sabre U.S. Army Heliport (Tennessee) Airport Traffic Area will become a Class D airspace area; the Jacksonville, Florida, Navy Airport Traffic Area will become three separate but adjoining Class D airspace areas; and the El Toro, California, Special Air Traffic Rules will become part of the El Toro Class C airspace area. Currently, these airports operate under special air traffic rules in Subparts N, O, and R of Part 93. To achieve a goal of airspace reclassification, which is to simplify airspace, the existing rules for these airspace areas are to be deleted as of September

December 12, 1991. Section 75.17, Bearings, radials, miles, is not transferred to new Subpart M, because the same information is located in existing § 71.19. NPRM No. 89–28 proposed to amend existing § 75.13. The proposed language is adopted in new § 71.605. A chart comparing old Part 75 and new Part 71, Subpart M follows.

Part 75—Establishment of Jet Routes & Area High Routes		Part 71, Subpart M—Jet Routes & Area High Routes	
§ 75.1	Applicability.	§ 71.601	Applicability.
§ 75.11	Jet routes.	§ 71.603	Jet routes.
§ 75.13	Area routes above 18,000 feet MSL.	§ 71.605	Area routes above 18,000 feet MSL.
§ 75.100	Jet routes.	§ 71.607	Jet route descriptions.
§ 75.400	Area high routes.	§ 71.609	Area high route descriptions.

Sections 71.607, Jet route descriptions, and 71.609, Area high route descriptions are not set forth in the full text of this final rule. The complete listing for all jet routes and area high routes can be found in FAA Order 7400.7, *Compilation of Regulations*, which was last published as of April 30, 1991, and effective November 1, 1991. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR Part 51. Copies of this order may be obtained from the Document Inspection Facility, APA–220, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, D.C. 20591, (202) 267-3484. Copies may be inspected in Docket Number 24456 at the Federal Aviation Administration, Office of the Chief Counsel, AGC–10, Room 915G, 800 Independence Avenue, SW., Washington, D.C. 20591 weekdays between 8:30 a.m. and 5 p.m. or at the Office of the Federal Register, 1100 L Street, N.W., Room 8401, Washington, D.C. The Part 75 sections referenced in FAA Order 7400.7 will be redesignated as Part 71 sections in the next revision to FAA Order 7400.7.

The second revision amends existing § 71.11, Control zone, and § 71.19, Bearings; radials; miles, and is effective October 15, 1992. This revision relates to the FAA's parallel reviews of certain airspace areas. The revision to § 71.11 permits the Administrator to terminate the vertical limit of a control zone at a specified altitude. The revision to § 71.19 provides for the conversion from statute miles to nautical miles and consists of the same language as § 71.7 that is effective September 16, 1993. More detail on the review of certain airspace areas is found under the title *Implementation of Airspace Reclassification.*

The third revision to Part 71 establishes a new Part 71 that includes the adopted airspace designations. This amendment, which is effective September 16, 1993, transfers the current sections of existing Part 71, including Subpart M—Jet Routes and Area High Routes, to this new Part 71. The following table lists the sections of existing Part 71, including Subpart M and the corresponding sections in the new Part 71, that are effective September 16, 1993. Subparts B through K and §§ 71.501(b), 71.607, and 71.609, which list airspace descriptions, are not set forth in the full text of this final rule. The complete listing for these airspace designations can be found in FAA Order 7400.9, *Airspace Reclassification,* which is effective September 16, 1993. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR Part 51. Copies of this order may be obtained from the Document Inspection Facility, APA-220, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, D.C. 20591, (202) 267-3484. Copies may be inspected in Docket Number 24456 at the Federal Aviation Administration, Office of the Chief Counsel, AGC–10, Room 915G, 800 Independence Avenue, SW., Washington, D.C. 20591 weekdays between 8:30 a.m. and 5 p.m. or at the Office of the Federal Register, 1100 L Street, N.W., Room 8401, Washington, D.C.

§ 71.5	Extent of Federal airways.	§ 71.75	Extent of Federal airways.
§ 71.6	Extent of area low routes.	§ 71.77	Extent of area low routes.
§ 71.7	Control areas.		Not applicable.
§ 71.9	Continental control area.	§ 71.71	Class E airspace.
§ 71.11	Control zones.		Not applicable.
§ 71.12	Terminal control areas.	§ 71.41	Class B airspace.
§ 71.13	Transition areas.	§ 71.71	Class E airspace.
§ 71.14	Airport radar service areas.	§ 71.51	Class C airspace.
§ 71.15	Positive control areas.	§ 71.31	Class A airspace.
§ 71.17	Reporting points.	§ 71.5	Reporting Points.
§ 71.19	Bearings; Radials; Miles.	§ 71.7	Bearings, radials, mileages.
	Subpart B—Colored Federal Airways		***Subpart E—Class E Airspace***
§ 71.101	Designation.	Subpart E of FAA Order 7400.9.	
§ 71.103	Green Federal airways.	Subpart E of FAA Order 7400.9.	
§ 71.105	Amber Federal airways.	Subpart E of FAA Order 7400.9.	
§ 71.107	Red Federal airways.	Subpart E of FAA Order 7400.9.	
§ 71.109	Blue Federal airways.	Subpart E of FAA Order 7400.9.	
	Subpart C—VOR Federal Airways		***Subpart E—Class E Airspace***
§ 71.121	Designation.	§ 71.79	Designation of VOR Federal airways.
§ 71.123	Domestic VOR Federal airways.	Subpart E of FAA Order 7400.9.	
§ 71.125	Alaskan VOR Federal airways.	Subpart E of FAA Order 7400.9.	
§ 71.127	Hawaiian VOR Federal airways.	Subpart E of FAA Order 7400.9.	
	Subpart D—Continental Control Area		***Subpart E—Class E Airspace***
§ 71.151	Restricted areas included.	Subpart E of FAA Order 7400.9.	
	Subpart E—Control Areas and Control Area Extensions		***Subpart E—Class E Airspace***
§ 71.161	Designation of control areas associated with jet routes outside the continental control area.	§ 71.71	Class E airspace and Subpart E of FAA Order 7400.9.
§ 71.163	Designation of additional control areas.	§ 71.71	Class E airspace and Subpart E of FAA Order 7400.9.
§ 71.165	Designation of control areas extensions.	Subpart E of FAA Order 7400.9.	

§ 71.181	Designation.	Subpart E of FAA Order 7400.9.
	Subpart H—Positive Control Areas	***Subpart A—General; Class A Airspace***
§ 71.193	Designation.	§ 71.33 Class A airspace areas.
	Subpart I—Reporting Points	***Subpart H—Reporting Points***
§ 71.201	Designation.	§ 71.901 Applicability.
§ 71.203	Domestic low altitude reporting points.	Subpart H of FAA Order 7400.9.
§ 71.207	Domestic high altitude reporting points.	Subpart H of FAA Order 7400.9.
§ 71.209	Other domestic reporting points.	Subpart H of FAA Order 7400.9.
§ 71.211	Alaskan low altitude reporting points.	Subpart H of FAA Order 7400.9.
§ 71.213	Alaskan high altitude reporting points.	Subpart H of FAA Order 7400.9.
§ 71.215	Hawaiian reporting points.	Subpart H of FAA Order 7400.9.
	Subpart J—Area Low Routes	***Subpart E—Class E Airspace***
§ 71.301	Designation.	Subpart E of FAA Order 7400.9.
	Subpart K—Terminal Control Areas	***Subpart B—Class B Airspace***
§ 71.401(a)	Designation.	Subpart B of FAA Order 7400.9.
§ 71.401(b)	Terminal control areas.	Subpart B of FAA Order 7400.9.
	Subpart L—Airport Radar Service Areas	***Subpart C—Class C Airspace***
§ 71.501	Designation.	Subpart C of FAA Order 7400.9.
	Subpart M—Jet Routes and Area High Routes	***Subpart A—General; Class A Airspace***
§ 71.601	Applicability.	Not applicable.
§ 71.603	Jet routes.	Subpart A of FAA Order 7400.9.
§ 71.605	Area routes above 18,000 feet MSL.	Subpart A of FAA Order 7400.9.
§ 71.607	Jet route descriptions.	Subpart A of FAA Order 7400.9.
§ 71.609	Area high route descriptions.	Subpart A of FAA Order 7400.9.

Discussion of Comments

A total of 205 commenters submitted comments to Docket No. 24456 on NPRM No. 89–28. The FAA considered these comments in the adoption of this rule and changes to the proposals were made accordingly. Some comments did not specifically apply to any particular proposal addressed in NPRM

effort and each classification of airspace. A general division entitled, *Additional Comments*, addresses issues that do not affect a specific airspace classification. Each discussion includes a description of the final amendment and an explanation of the FAA's views.

Reclassification of Airspace

One hundred and forty-one comments on the proposal to reclassify U.S. airspace to meet ICAO standards were submitted. Sixty-eight supported reclassification and 69 opposed reclassification. Four commenters neither supported nor opposed the reclassification effort, but offered observations.

The 68 supporting comments include those submitted by the ATA, ATCA, and COPA. The COPA stated that on an average, approximately 60,000 general aviation aircraft cross the U.S./Canadian border each year. Some commenters stated that the proposed classifications are easier to understand than the current classifications and noted that the proposed classifications would help develop standardization. Two flight instructors commented that the proposed classifications would aid in the teaching of the airspace system to new pilots.

The 69 opposing comments include the Arizona Pilots Association, EAA, and SSA. Several comments, including EAA's, asserted that the current airspace designation names are more descriptive, and hence, easier to remember. Several comments, including one from the Arizona Pilots Association, stated that the proposal would cause confusion, while other commenters alleged that the proposal would only benefit pilots who operate internationally.

Both the SSA and the Arizona Pilots Association recommend that existing airspace nomenclature be retained and a table be included in the *Airman's Information Manual* (AIM) or Part 91 to correlate U.S. airspace designations and ICAO equivalents.

The four comments submitted that do not directly support or oppose the proposal include those from the Alaska Airmen's Association, ALPA, and AOPA. The AOPA expressed concerns about how pilots would be reeducated during the transition phase that would precede the adoption of the proposed airspace reclassification. AOPA recommended that the FAA take five steps to ensure proper pilot education: (1) convene a government, industry, and user meeting before the issuance of a final rule to consider the implications of final rule adoption; (2) ensure that all necessary funding is in place, including monies for the specific purpose of pilot education; (3) adopt a dual airspace system during the transition phase; (4) coordinate with the National Oceanic and Atmospheric Administration (NOAA) to ensure that all charts are printed in a timely manner; and (5) amend the flight review requirements to reflect explicitly the need to discuss airspace classifications. The FAA agrees that the aviation public needs to be educated in airspace reclassification. Therefore, the FAA has developed an education and transition program, which is discussed under ''Education of the Aviation Community.''

As proposed, the FAA will reclassify U.S. airspace in accordance with ICAO standards. Airspace areas, with the exception of special use airspace (SUA) designations, will be classified by a single alphabet character. The FAA believes that reclassification of U.S. airspace simplifies the airspace system, achieves international commonality, enhances aviation safety, and satisfies the responsibility of the United States as a member of ICAO.

Some commenters misunderstood the proposal on airspace reclassification. These commenters understood Class A airspace areas to be en route airspace and Class B, Class C, and Class D airspace areas to be terminal airspace. The recommended ICAO airspace classes are not based on whether the airspace area is designated for ''en route'' or ''terminal'' operations, but rather on other factors that include type of operation (i.e., IFR, VFR) and ATC services provided. (The table below lists the new airspace classifications, its equivalent in the existing airspace classification, and its features, which would apply to terminal and en route airspace areas.) For example, under this rule Class C airspace is designated in terminal areas. Class C airspace in another country could be designated in en route areas. However, the type of operation, ATC services provided, minimum pilot qualifications, two-way radio requirements, and VFR minimum visibility and distance from cloud requirements in that country's Class C airspace

AIRSPACE FEATURES	CLASS A AIRSPACE	CLASS B AIRSPACE	CLASS C AIRSPACE	CLASS D AIRSPACE	CLASS E AIRSPACE	CLASS G AIRSPACE
Current Airspace Equivalent	Positive Control Areas	Terminal Control Areas	Airport Radar Service Areas	Airport Traffic Areas and Control Zones	General Controlled Airspace	Uncontrolled Airspace
Operations Permitted	IFR	IFR and VRF	IFR and VFR	IFR and VFR	IFR and VFR	IFR and VFR
Entry Prerequisites	ATC clearance	ATC clearance	ATC clearance for IFR Radio contact for all	ATC clearance for IFR Radio contact for all	ATC clearance for IFR Radio contact for all IFR	None
Minimum Pilot Qualifications	Instrument rating	Private or student certificate	Student certificate	Student certificate	Student certificate	Student certificate
Two-way radio communications	Yes	Yes	Yes	Yes	Yes for IFR operations	No
VFR Minimum Visibility	Not applicable	3 statute miles	3 statute miles	3 statute miles	*3 statute miles	**1 statute mile
VFR Minimum Distance from Clouds	Not applicable	Clear of clouds	500 feet below, 1,000 feet above, and 2,000 feet horizontal	500 feet below, 1,000 feet above, and 2,000 feet horizontal	*500 feet below, 1,000 feet above, and 2,000 feet horizontal	**500 feet below, 1,000 feet above, and 2,000 feet horizontal
Aircraft Separation	All	All	IFR, SVFR, and runway operations	IFR, SVFR and runway operations	IFR, SVFR	None
Conflict Resolution	Not applicable	Not applicable	Between IFR and VFR operations	No	No	No
Traffic Advisories	Not applicable	Not applicable	Yes	Workload permitting	Workload permitting	Workload permitting
Safety Advisories	Yes	Yes	Yes	Yes	Yes	Yes

*Different visibility minimum and distance from cloud requirements exist for operations above 10,000 feet MSL.

**Different visibility minima and distance from cloud requirements exist for night operations, operations above 10,000 feet MSL, and operations below 1,200 feet AGL.

Offshore Airspace

The FAA adopts, as proposed, the NAR recommendations NAR 3–2.1.1—Offshore Airspace Nomenclature, NAR 3–2.1.2—Offshore Control Area Uniform Base, NAR 3–2.1.3—Offshore Control Area Identification, and NAR 3–2.1.4—Offshore Airspace Classification, which consider offshore airspace areas. However, NAR 3–2.1.2, which recommends a uniform base for offshore control areas of 1,200 feet above the surface unless otherwise designated, and NAR 3-2.1.3, which recommends that offshore control areas be identified with a name as opposed to a number are contingent on the FAA's further review. (More details on the review process appear later in this document under the title *Implementation of Airspace Reclassification.*) Any changes to offshore airspace areas resulting from the FAA's review will be accomplished by separate rulemaking actions. The FAA's review is being conducted in compliance with Executive

The FAA has begun to coordinate with a task group of the Interagency Air Cartographic Committee (IACC) and the National Ocean Service (NOS), which will begin to update aeronautical charts. During the transition, the FAA will update its orders, manuals, handbooks, and advisory circulars, and will provide pilot/controller education. Significant dates in the transition process appear below with additional discussion following.

AIRSPACE RECLASSIFICATION TRANSITION

Tentative Date	*Event*
October 15, 1992	First sectional aeronautical charts (SAC), world aeronautical charts (WAC), and terminal aeronautical charts (TAC) are published with legends that indicate both existing and future airspace classifications.
March 4, 1993	Initial charting changes are completed for the SAC and TAC.
June 24, 1993	North Pacific, Gulf of Mexico, and Caribbean planning charts are published with legends that indicate both existing and future airspace classifications.
August 19, 1993	Flight Case Planning and North Atlantic Route charts are published with legends that indicate existing and future airspace classifications.
September 16, 1993	New airspace classifications become effective. All charts begin publication with legends that indicate both the new airspace classification and the former airspace classification. All related publications are updated.
March 3, 1994	First charts are published with legends that only indicate the new airspace classifications.
August 17, 1994	All charts are published with legends that only indicate the new airspace classifications.

Coordination with a task group of the IACC and the NOS will continue throughout the transition. An anticipated modification to the symbols on aeronautical charts is the addition of a segmented magenta line to represent the controlled airspace area for airports without operating control towers that extends upward from the surface (Class E airspace). A segmented blue line (which currently depicts a control zone) will denote a Class D airspace area, the controlled airspace for airports with operating control towers that are not the primary airport of a TCA or an ARSA.

The legends in aeronautical charts will include both the existing airspace classifications and the airspace classifications to be effective September 16, 1993. For example, the solid blue line that symbolizes a TCA will be followed by "TCA (Class B)." The first charts with a dual legend will be published October 15, 1992. Commencing September 16, 1993, the legends on these charts will be reversed [e.g., a solid blue line will be followed by "Class B (TCA)"]. Between March 3 and August 17, 1994, the use of dual indication legends will be phased out.

Between October 1992 and March 1993, educational materials such as pocket guides, a video, and posters will be issued to instruct the aviation public on airspace reclassification. The FAA will begin to update the AIM and other publications, as well as FAA orders, manuals, handbooks, and advisory circulars that must be revised to include the new airspace classifications and an explanation of the transition and implementation procedures.

The transition and implementation of the Airspace Reclassification final rule also will include parallel reviews of certain current airspace designations to meet the new airspace classifications. A full discussion on this review appears later in this document under the title *Implementation of Airspace Reclassification.*

of direct courses for navigating aircraft at altitudes between 18,000 feet MSL and flight level 450, inclusive, meet the criteria of Class A airspace as adopted by ICAO.

As noted earlier, the recommended ICAO airspace classes are not based on whether the airspace area is designated for "en route" or "terminal" operations. Any new Class A airspace areas would be proposed in separate rulemaking actions.

Class B Airspace

NPRM No. 89–28 proposed to reclassify TCAs as Class B airspace areas and to amend the minimum distances by which aircraft operating under VFR must remain from clouds. The current VFR minimum distance requirements of 500 feet below, 1,000 feet above, and 2,000 feet horizontal from clouds will be amended to require that the pilot must remain clear of clouds.

One comment supports and two comments specifically oppose the proposed reclassification. Twelve comments on the proposal to amend minimum distance from clouds for VFR operations in Class B airspace areas were received. Eight of these comments support and four oppose the proposal.

The comments submitted in support of the proposal to reclassify TCAs as Class B airspace areas and to modify the minimum distances from cloud for VFR operations include those from AOPA, the Alaska Airmen's Association, EAA, and SSA. AOPA stated that the proposal "is a positive step in improvement of VFR traffic flow within" Class B airspace areas.

A commenter in support of reclassification stated that some of the areas to be classified as Class B airspace areas could be redesignated as Class C airspace areas.

The four comments submitted in opposition to the proposed amendment on distance from cloud requirements for VFR operations include a comment from ALPA. Some commenters stated that the proposal to modify the minimum distance from clouds for VFR flight in Class B airspace areas reduces the existing margin of safety. ALPA further stated that the ability of a pilot to maintain visual contact with other aircraft is reduced if aircraft operate in close proximity to clouds. One commenter stated that the proposals do not answer the need for clear radio failure procedures in Class B airspace areas. Another commenter stated that Class B airspace areas are actually divided into two types of Class B airspace: one in which a private pilot certificate is required and one in which, at a minimum, only a student pilot certificate is required.

This rulemaking reclassifies existing airspace areas with the equivalent recommended ICAO airspace area. It does not redesignate existing airspace areas. For example, the redesignation of a Class B airspace area (TCA) to a Class C airspace area (ARSA) is beyond the scope of this rulemaking. The FAA believes that the elimination of terminal areas designated as Class B airspace areas would create a substantial adverse impact on the safe and efficient control of air traffic in those high volume terminal areas. Class B airspace areas, like the TCAs that preceded them, provide more efficient control in terminal areas where there is a large volume of air traffic and where a high percentage of that traffic is large turbine-powered aircraft. Additionally, on July 25, 1991, the FAA revised FAA Order 7110.65, *Air Traffic Control*, by adopting specific separation standards for operations under VFR in existing TCAs. These standards require air traffic controllers to separate aircraft operating under VFR in existing TCAs from other aircraft operating under VFR and IFR.

As stated in NPRM No. 89–28 in response to NAR 1–7.2.9—Recommended VFR Minima, the FAA views the relaxation of the distance from cloud requirements for VFR operations as a modification that would enhance rather than reduce safety. Under the existing regulations, a pilot operating an aircraft under VFR in a TCA (Class B airspace) is provided with ATC services and is subject to ATC clearances and instructions. For the pilot operating under VFR to remain specific distances from clouds, the pilot must alter course or assigned heading/route, which is a disruption to traffic flow and could be a compromise to safety. The amendment will increase safety for pilots operating under VFR and ATC by permitting these pilots to remain clear of clouds in Class B airspace areas, but not requiring them to remain a specific distance from clouds. However, if an ATC instruction to a pilot operating an aircraft under

when it becomes effective.

The amendment to reclassify TCAs as Class B airspace areas does not modify the current operating rules for communications. Lost communication requirements are addressed in paragraph 470, Two-way Radio Communications Failure, of the AIM and are not within the scope of the rulemaking.

The FAA accepted NAR 1–7.3.3—Pilot Requirements for Operations in a TCA, under the provisions of the existing requirements; hence, the reclassification of TCAs as Class B airspace areas meets existing regulations on minimum airman certificate levels. Section 61.95 of the FAR, which lists student pilot requirements for operations in a TCA (Class B airspace), is revised to meet the new airspace classification. Solo student pilot activity is, under both the existing regulations and this final rule, prohibited at certain airports.

Class C Airspace

Three comments were submitted on the reclassification of ARSAs as Class C airspace areas. None of the comments specifically support or oppose the reclassification. All of the comments, including one from EAA, addressed additional modifications.

Two commenters noted that the proposal for VFR operations in Class B airspace areas to remain clear of clouds could be applied to Class C airspace areas.

In its comment, EAA opposed any increase in the size of Class C airspace areas. Other recommendations by commenters included the need for clear radio failure procedures and the need for designated areas that do not require communications with ATC when the pilot desires to use an uncontrolled airport within Class C airspace areas.

As proposed, the FAA will reclassify ARSAs as Class C airspace areas. No other modifications to Class C airspace areas or changes in operating rules were proposed. An ARSA that currently operates on a part-time basis is classified as Class C part-time and Class D or Class E at other times.

Aircraft operating under VFR in Class C airspace areas operate under less stringent requirements than aircraft operating under VFR in Class B airspace areas and are not provided the same separation by ATC. Therefore, the relaxation of the VFR distance from cloud requirements in Class C airspace areas to remain clear of clouds would not be in accordance with safety precautions. As noted earlier, lost communication procedures are addressed in paragraph 470, Two-way Radio Communications Failure, of the AIM. Since Class C airspace areas often have a high number of aircraft that operate under IFR, a relaxation of existing communications requirements would not be in the interest of safety. Any modifications to the dimensions or operating requirements for Class C airspace areas are outside the scope of this rulemaking.

Class D Airspace

NPRM No. 89–28 proposed to reclassify control zones for airports with operating control towers and airport traffic areas, not associated with a TCA or an ARSA, as Class D airspace areas. In addition, NPRM No. 89–28 proposed to: (1) raise the ceiling to up to, and including, 4,000 feet from the surface of the airport; (2) require aircraft in Class D airspace areas to establish two-way radio communications with ATC; and (3) convert the lateral unit of measurement from statute miles to nautical miles.

One hundred and forty comments concerning the proposal to establish the ceiling of the Class D airspace areas at 4,000 feet above the surface were submitted. All of the comments opposed the proposal.

Of the 83 comments regarding the proposal to require pilots who operate in Class D airspace areas to establish two-way radio communications with ATC, two supported the proposal and 80 opposed it. One comment neither supported nor opposed the proposals.

One hundred and forty-three comments related to the proposal to convert the lateral unit of measurement of Class D airspace areas from statute to nautical miles were submitted. Most interpreted the proposal

could be expanded to weather reports, visibility requirements, and distance from cloud requirements above 10,000 feet MSL. ATCA stated that the proposal for two-way radio communications with ATC "erases a potentially dangerous practice and is long overdue." Another commenter suggested that a corridor could be provided in Class D airspace areas for operations at satellite airports without operating control towers.

The 140 commenters that opposed the proposed ceiling of 4,000 feet above the surface included AOPA, the Alaska Airmen's Association, the Arizona Pilots Association, EAA, the Ohio Department of Transportation, and SSA. These same organizations are represented in the 131 comments that opposed the proposed conversion from statute to nautical miles and the 80 comments that oppose the proposed two-way radio communications requirements with ATC.

Several comments, including one from EAA, were submitted on the effects of the proposed ceiling modification and communications requirements on operations under SFAR No. 51–1—Special Flight Rules in the Vicinity of Los Angeles International Airport. According to the comments, the proposal would raise the ceiling of the airport traffic areas at Santa Monica and Hawthorne Airports into the Special Flight Rules Area. The commenters also stated that the proposed two-way radio communication requirements with ATC may not allow aircraft, especially those with one radio, to listen to an advisory frequency.

Some commenters, including SSA, stated that airport traffic areas (Class D airspace) could be depicted on aeronautical charts. Several commenters, including AOPA, the Alaska Airmen's Association, EAA, and the Ohio Department of Transportation stated that the proposals would increase air traffic controller workload. Some comments, including one from AOPA, stated that the proposal would increase pilot workload or that no safety benefit exists for the proposed modifications.

Several commenters, including AOPA and EAA, requested that the ceiling of Class D airspace areas be lowered to 2,000 feet or 2,500 feet above the surface. The commenters stated that the lower altitudes are adequate for the arrival and departure of aircraft. Other commenters, including the Alaska Airmen's Association and SSA, recommended retaining the current ceiling of 3,000 feet above the surface.

Commenters stated that the proposals for modifying the size of airspace and for requiring two-way radio communications with ATC would be a burden to aircraft that fly at low altitudes, and that some aircraft would need to fly a minimum of 5,500 feet MSL as opposed to 3,500 feet MSL. Some commenters stated that the proposal would burden pilots of airplanes that do not have radios. One commenter noted that pilots who fly older aircraft with no radios or navigational aids do not pose a threat to commercial aviation.

Several comments, including those submitted by the AOPA and the Alaska Airmen's Association, stated that the proposal for two-way radio communications with ATC would not permit aircraft to listen to the common traffic advisory frequency (CTAF) of satellite airports. Additional comments, including those submitted by the AOPA and EAA, noted that air traffic controllers in control towers cannot provide effective traffic advisories for satellite airports. Some commenters, including EAA and the Ohio Department of Transportation, stated that the proposed two-way radio communication requirements with ATC are not necessary because operations at satellite airports usually do not interfere with airports with operating control towers. Another commenter noted that a pilot who desires to use a satellite airport and needs to fly near an airport with an operating control tower would need to notify the local ATC facility.

Commenters, including the Arizona Pilots Association and EAA, recommended that the lateral unit of measurement of Class D airspace areas be designated at 4 nautical miles.

As proposed, control zones for airports with operating control towers and airport traffic areas that are not associated with a TCA or an ARSA are reclassified as Class D airspace areas. After considering public comment and re-examining technical criteria, the FAA has determined that: (1) the ceiling of a Class D airspace area (designated for an airport) will normally be designated at 2,500 feet above the surface of the airport converted to mean sea level (MSL), and rounded to the nearest 100 foot increment; (2) two-way radio communications with ATC will be required; and (3) the lateral dimensions will be expressed in nautical miles rounded up to the nearest tenth of a mile. The actual lateral and

in Part 91 to the sections effective August 18, 1990. Any modifications to operations under an SFAR or Part 93, Special Air Traffic Rules and Airport Traffic Patterns, will be proposed under separate rulemaking actions.

Vertical Limit of Class D Airspace Areas

A goal of airspace reclassification is to enhance safety. The FAA is of the opinion that the existing airspace designations of an ARSA, which has a ceiling of "up to and including" 4,000 feet above the surface, and an airport traffic area, which has a ceiling of "up to, but not including," 3,000 feet above the surface, has caused confusion, which does not enhance safety. To promote uniformity, the FAA in NPRM No. 89–28 proposed that the ceiling of Class C, Class D, and Class E airspace areas that extend upward from the surface be established at "up to, and including" 4,000 feet above the surface. Many of the comments on this proposal were opposed to this modification. As previously stated, the FAA has determined that the ceiling of Class D airspace areas will normally be designated at up to, and including, 2,500 feet above the surface of the airport expressed in MSL. To further enhance uniformity, the ceiling of Class E airspace areas that extend upward from the surface normally will also have a ceiling established at up to, and including, 2,500 feet above the surface of the airport expressed in MSL. A ceiling of 2,500 feet above the surface will provide adequate vertical airspace to protect traffic patterns. However, the FAA emphasizes that the ceiling of a Class D or a Class E airspace area will reflect the conditions of the particular airspace area. For example, if local conditions warrant, the ceiling could be designated at more than 2,500 feet above the surface (e.g., 2,700 or 3,000 feet above the surface). Conversely, some airports with limited volume of nonturbine-powered aircraft may have a lower vertical limit.

The decision to use 2,500 feet above the surface is based on recent FAA analysis of vertical airspace necessary to protect traffic patterns and a review of public comment to lower the ceiling of an airport traffic area. The FAA's analysis demonstrates that the 2000-foot vertical limit is insufficient since it often does not protect traffic patterns for high performance aircraft.

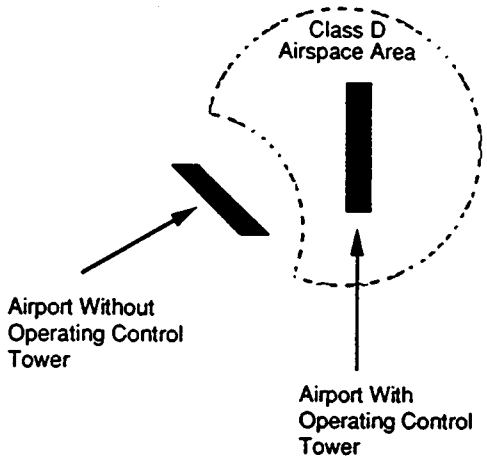
Two-Way Radio Communications in and Lateral Dimensions of Class D Airspace Areas

The FAA has determined that in order to meet safety standards, two-way radio communications with ATC must be established in Class D airspace areas. Task Group 1–2.3, which recommended NAR 1–2.3.2—Two-Way Radio Requirements in Airport Traffic Areas, stated that "pilots have been issued violations, or critical injuries have occurred because pilots were not in compliance with the two-way radio communications requirements."

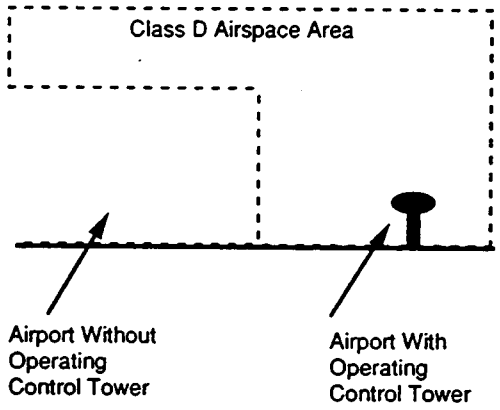
The FAA also has determined that the lateral distance of Class D airspace areas will be based on the instrument procedures for which the controlled airspace is established. Therefore, the dimensions may not be in a circular shape that is similar to the current airport traffic areas or control zones.

Many commenters stated that the communications requirements associated with operations at satellite airports within Class D airspace areas would prevent them from using CTAF procedures. The FAA generally agrees with these comments; consequently, the FAA will individually review control zones and associated transition areas that are not associated with the primary airport of a TCA or an ARSA. The review of the designation of Class D airspace areas will be conducted to determine the necessary size of the area and will exclude satellite airports to the maximum extent practicable and consistent with safety. For example, a satellite airport without an operating control tower might have a Class E airspace area carved out of a Class D airspace area, or a Class E airspace area might be placed under a shelf of a Class D airspace area. (See Figure 1.) In another example, the portions of an existing control zone that extend beyond the existing limits of an airport traffic area (extension used for instrument approaches) may be designated only by using the airspace necessary under the terminal instrument procedures (TERPs) criteria. (See Figure 1.) When a satellite airport is excluded, a pilot who is operating an aircraft in the immediate vicinity of that satellite airport and who does not otherwise penetrate airspace where two-way radio communications with ATC are required will be free to communicate on the CTAF of that satellite airport.

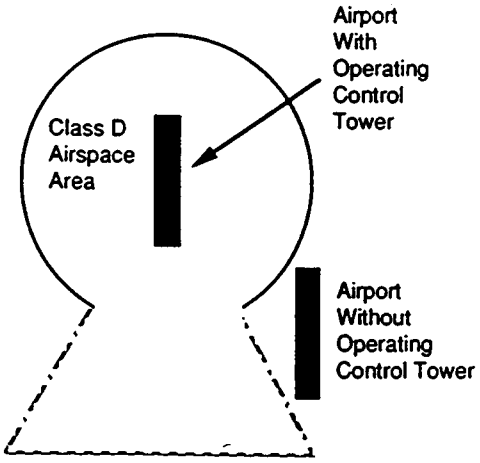
Cutout Method



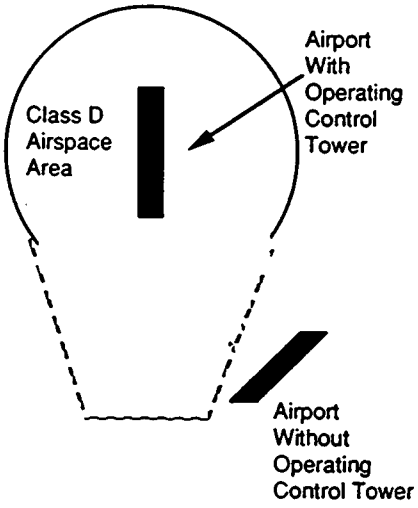
Shelf Method



TERPS' Trapezoid Going Toward the NAVAID



TERPS' Trapezoid Going Away from the NAVAID



towers, transition areas, and area low routes. The five comments submitted on this proposal neither supported nor opposed the proposal, but offered suggestions.

One commenter noted that the current names are descriptions of how the airspace area is to be used (i.e., transition areas, airways) and that under the proposal, airways would still be necessary. The SSA recommended the continued use of the term ''control zone'' for airspace extending upward from the surface that is independent of Class B, Class C, or Class D airspace areas. They also recommended that control zones should extend to the floor of overlying controlled airspace. One commenter recommended that the floor of Class E airspace areas that are now 1,200 feet above ground level (AGL) be raised to 1,500 or 2,200 feet AGL and noted that the floor of Class E airspace areas should not be below the minimum en route IFR altitude (MEA) in mountainous regions.

The FAA will adopt the classification of Class E airspace areas as proposed. This classification will not eliminate the requirement for Federal airways, which are specified in Part 71. However, this classification will eliminate the designation of control zones. Control zones for airports without operating control towers are classified as Class E airspace areas designated for an airport that extend upward from the surface.

The FAA believes that the reclassification of control zones for airports without operating control towers as Class E airspace areas will not cause confusion. As noted earlier, such airspace areas will be depicted on visual aeronautical charts by a segmented magenta line. Under existing regulations, a control zone usually has a 5-statute mile radius and ascends to the base of the Continental Control Area. The FAA's review process, using the revised criteria in FAA Order 7400.2C, will look at the dimensions of each control zone and associated transition areas. Each review will include a review of instrument approach procedures, as well as local terrain to determine the actual airspace needed to contain IFR operations.

The floor of Class E airspace areas, which do not extend upward from the surface, will remain the same as existing airspace areas (e.g., 700 feet AGL, 1,200 feet AGL, 1,500 feet AGL, 14,500 feet MSL). Any modifications to the floor of Class E airspace areas are beyond the scope of this rulemaking.

Class G Airspace

NPRM No. 89–28 proposed to reclassify airspace that is not otherwise designated as the Continental Control Area, a control area, a control zone, a terminal control area, a transition area, or SUA as Class G airspace areas. Of the six comments submitted, four comments opposed the proposal and two offered suggestions.

The four opposing comments, including EAA's comment, understood the Class G airspace areas to be airspace below 700 feet AGL.

The two comments that neither supported nor opposed the proposal included the comment from the ATA. The ATA recommended that Class G airspace areas be designated as Class F airspace areas.

The FAA has determined that all navigable airspace areas not otherwise designated as Class A, Class B, Class C, Class D, or Class E airspace areas or SUA are classified as Class G airspace areas. Since the proposal to replace the Continental Control Area with the U.S. control area in NPRM No. 88–2 was not adopted, the vertical limit of Class G airspace areas will vary (e.g., 700 feet AGL, 1,200 feet AGL, 1,500 feet AGL, 14,500 feet MSL). In addition, the flight visibility and distance from cloud requirements for operations under VFR proposed in NPRM No. 89–28 are modified to remain consistent with the existing requirements in §§ 91.155 and 103.23.

Class F airspace is omitted from the U.S. airspace classifications because this airspace, as adopted by ICAO, does not have a U.S. equivalent. Class G airspace, as adopted by ICAO, is the equivalent of U.S. uncontrolled airspace.

of airspace areas will be proposed in future FAA rulemaking actions.

Three commenters, including the Alaska Airmen's Association and SSA, noted that NPRM No. 89–28 proposed to define controlled airspace in FAR § 1.1 as airspace in which "all aircraft may be subject to ATC" rather than airspace in which "some or all aircraft may be subject to ATC." According to one commenter, because aircraft operating under VFR are not always subject to ATC in controlled airspace, especially Class E airspace, the current definition is more accurate.

The proposed definition of controlled airspace is adopted in essence but it has been modified to correspond with ICAO's definition of a controlled airspace. Subsequent to the publication of NPRM No. 89–28, ICAO modified its definition of controlled airspace to read as follows: "*Controlled airspace.* An airspace of defined dimensions within which air traffic control service is provided to IFR flights and to VFR flights in accordance with the airspace classification. Note—Controlled airspace is a generic term which covers ATS [air traffic services] in airspace Classes A, B, C, D, and E." The proposed FAA definition in NPRM No. 89–28 read: "*Controlled airspace* means airspace designated as Class A, Class B, Class C, Class D, or Class E airspace in Part 71 of this chapter and within which all aircraft may be subject to air traffic control."

While the commenter is essentially correct that all aircraft are not always subject to air traffic control, any aircraft may be subject to ATC if the pilot operates under IFR or if the pilot requests and receives air traffic services. The FAA believes that misunderstandings would be minimized with the adoption of the ICAO definition. The ICAO definition and the proposed definition are essentially synonymous; however, the FAA is confident the adoption of the ICAO definition is consistent with the objectives of airspace reclassification and that it is beneficial to have a common international definition of controlled airspace.

Four commenters, including EAA and SSA, noted that NPRM No. 89–28 only permits Special VFR operations for the purposes of departing from or arriving at an airport. The commenters stated that such a restriction of Special VFR operations would affect pipeline patrol, aerial photography, law enforcement, agricultural, and other special types of operations. EAA also stated that the proposed limitation of 4,000 feet above the surface for Special VFR operations could prevent pilots from climbing to the top of a haze layer.

The FAA will continue to permit Special VFR operations for through flights as well as flights for arrival or departure. Because control zones will be eliminated under Airspace Reclassification, Special VFR operations are only permitted within the ceiling and lateral boundaries of the surface areas of the Class B, Class C, Class D, or Class E airspace designated for an airport. Because the proposal for a uniform ceiling for Class C, Class D, and Class E airspace areas at 4,000 feet above the surface is not adopted, the boundaries of the airspace area in which Special VFR operations are permitted will vary. For example, if a Class C airspace area has a ceiling designated at 4,500 feet MSL and a surface area designated within a 5-nautical mile radius from the airport, Special VFR operations are permitted within that 5-nautical mile radius up to and including 4,500 feet MSL.

One commenter, a flight instructor with a petition signed by additional flight instructors, stated that the language in the proposal on aerobatic flight is vague and could be interpreted to restrict aerobatic operations within existing transition areas and other less crowded airspace areas. The commenter was concerned that the proposed § 91.71(c) could affect spin training at flight schools.

Under this amendment, the term "control zone" will be eliminated. However, the FAA desires to continue restrictions that currently exist in the FAR on operations within control zones. These restrictions will now apply within the lateral boundaries of the surface areas of the Class B, Class C, Class D, or Class E airspace designated for an airport. For example, if a Class E airspace area is designated to extend upward from the surface with a 4.4-nautical mile radius from the airport and a ceiling of 2,600 feet MSL, aerobatic flight will not be permitted below 2,600 feet MSL within a 4.4-nautical mile radius of the airport.

7400.2C and the reviews occur before the effective date of the Airspace Reclassification final rule, the revised criteria are written in existing airspace terminology. Examples of the revised criteria include: (1) converting the lateral unit of measurement from statute miles to nautical miles; (2) conforming existing control zones to be congruent with the lateral dimensions of the surface areas of existing TCAs or ARSAs; (3) redesignating control zones to contain intended operations (not necessarily in a circular configuration); (4) redesignating the vertical limit of control zones from the surface of the earth to a specified altitude (but not to the base of the Continental Control Area); (5) establishing a policy to exclude satellite airports from control zones to the maximum extent practicable, consistent with instrument procedures and safety; and (6) replacing control zone departure extensions with transition areas.

The FAA anticipates that many control zones and associated transition areas would require minor modification. For example, a control zone could be integrated with the associated TCA or ARSA (Class B or Class C airspace area) or a control zone could become either a Class D airspace area or a Class E airspace area that extends upward from the surface.

The reviews will include control zones where a significant change in the current airspace structure is expected. For example, a control zone that extends beyond the perimeter of the associated TCA or ARSA and could require modification of the associated TCA or ARSA (Class B or Class C airspace area). The reviews will also include transition areas not associated with control zones and offshore airspace. Proposed changes that result from these reviews will be promulgated using normal rulemaking procedures.

The reviews could also result in the expansion of controlled airspace. These actions could affect airspace areas associated with non-Federal control towers. Any expansion of controlled airspace will be proposed in future NPRMs.

All necessary changes to the airspace structures are scheduled to be completed by September 16, 1993, the effective date of the Airspace Reclassification final rule.

Changes to the NPRM

This final rule includes several nonsubstantive editorial changes made to NPRM No. 89–28. Changes are also included in this final rule to certain FAR sections that were not included in NPRM No. 89–28 but require changes in terminology to be consistent with the amendments. Three additional subparts in Part 93 are deleted because the rules will not be necessary under airspace reclassification. The sections and subparts, with an explanation of the changes made to them, follow.

SFAR 51–1: The reference to "Terminal Control Area (TCA)" in Section 1 is replaced with "Class B airspace area." The reference to § 91.105(a) in Section 2(a) is replaced with § 91.155(a). The reference to § 91.24(b) in Section 2(b) is replaced with § 91.215(b). The phrase "meet the equipment requirements" in Section 2(b) is replaced with "be equipped as." The reference to § 91.90(a) and § 91.90 in Section 3 is replaced with § 91.131(a) and § 91.131.

SFAR 60: The references to "terminal control area" and "airport radar service area" in Section 3a are replaced with "Class B airspace area" and "Class C airspace area." The phrase "terminal and en route airspace" in Section 3a is replaced with "class of controlled airspace."

SFAR 62: The two references to "terminal control area" in Section 1(a) are replaced with "Class B airspace area." The references to the "Tri-Area TCA" in Section 2(24) and (25) are replaced with "Tri-Area Class B airspace area."

§ 45.22(a)(3)(i): The phrase "the designated airport control zone of the takeoff airport, or within 5 miles of that airport if it has no designated control zone" is replaced with "the lateral boundaries of the surface areas of Class B, Class C, Class D, or Class E airspace designated for the takeoff airport, or within 4.4 nautical miles of that airport if it is within Class G airspace."

§ 61.95: All references to "terminal control area" in the title and paragraphs (a), (a)(1), (a)(2), (a)(3), and (b) are replaced with "Class B airspace" or "Class B airspace area."

§ 91.905: The references to §§ 91.127, 91.129, 91.130, 91.131, and 91.135 are replaced with the titles to become effective September 16, 1993, and a reference is added to § 91.126.

§ 93.1(b): The reference to § 93.113, which is to be deleted as of September 16, 1993, is deleted.

Subpart N, Part 93: This subpart on the airport traffic area at the Sabre U.S. Army Heliport (Tennessee) is removed and reserved. On September 16, 1993, this airspace will become a Class D airspace area.

Subpart O, Part 93: This subpart on the Navy airport traffic area at Jacksonville, Florida, is removed and reserved. On September 16, 1993, this airspace will become three separate but adjoining Class D airspace areas.

Subpart R, Part 93: This subpart on the Special Air Traffic Rules at El Toro, California, is removed and reserved. On September 16, 1993, this airspace will become a part of the El Toro Class C airspace area.

§ 135.205(b): The reference to "uncontrolled airspace" is replaced with "Class G airspace." The reference to "control zones" is replaced with "within the lateral boundaries of the surface areas of Class B, Class C, Class D, or Class E airspace designated for an airport."

§ 139.323(a): The reference to "terminal control area" is replaced with "Class B airspace area."

§ 171.9(e)(1) and (e)(2): All references to "air traffic control areas" are replaced with "controlled airspace."

§ 171.29(d)(1) and (d)(2): All references to "air traffic control areas" are replaced with "controlled airspace."

§ 171.159(e)(1) and (e)(2): Both references to "air traffic control areas" are replaced with "controlled airspace." The reference to "air traffic control zones or areas" is replaced with "controlled airspace."

§ 171.209(d): Both references to "air traffic control areas" are replaced with "controlled airspace." The reference to "air traffic control zones or areas" is replaced with "controlled airspace."

§ 171.323(i): The reference to "air traffic control areas" is replaced with "controlled airspace." The reference to "air traffic control zones or areas" is replaced with "controlled airspace."

Obsolete Dates

Obsolete dates have been removed from §§ 91.215(b)(2), (b)(4), and (b)(5)(ii). Section 91.215(b)(5)(i)(A) is obsolete and is deleted. Section 91.215(b)(5)(i)(B) is incorporated into existing § 91.215(b)(5)(i).

Regulatory Evaluation Summary

This section summarizes the full regulatory evaluation prepared by the FAA that provides more detailed estimates of the economic consequences of this final rule regulatory action. This summary and the full evaluation quantify, to the extent practicable, estimated costs to the private sector, consumers, Federal, State and local governments, as well as anticipated benefits.

Executive Order 12291, dated February 17, 1981, directs Federal agencies to promulgate new regulations or modify existing regulations only if potential benefits to society for each regulatory change outweigh potential costs. The order also requires the preparation of a Regulatory Impact Analysis of all major rules except those responding to emergency situations or other narrowly defined exigencies. A major rule is one that is likely to result in an annual effect on the economy of $100 million or more, a major increase in consumer costs, a significant adverse effect on competition, or one that is highly controversial.

The FAA has determined that this rule is not major as defined in the executive order. Therefore, a full regulatory *analysis*, that includes the identification and evaluation of cost reducing alternatives

designations, standardize equipment requirements and associate appropriate pilot certification requirements as well as certain other requirements associated with each proposed airspace designation. These changes are based primarily on recommendations from a National Airspace Review (NAR) task group and will ultimately allow for increased safety and efficiency in the U.S. airspace and air traffic control system.

Costs

The FAA estimates the total incremental cost that will accrue from the implementation of this final rule to be $1.9 million (discounted, in 1990 dollars). Virtually all cost, which is expected to be incurred by the FAA, will accrue from revisions to aeronautical charts, re-education of the pilot community, and revision of air traffic controller training courses. Each one of these factors is briefly discussed below:

1. Revisions to Aeronautical Charts

A significant cost impact associated with this rule will result from the requirement to change aeronautical charts. These modifications will be incorporated during the regular updating and printing of the charts. Therefore, all costs associated with printing aeronautical charts are assumed to be normal costs of doing business. However, because of dimension and symbol changes that will be needed, the plates used to print the charts will need to be changed, and this will affect most of the aeronautical charts printed.

The total cost of revisions to all charts is estimated by the National Ocean Service based on the summation of the costs of revising each class of the airspace. The total discounted cost is estimated to be $1.2 million.

2. Revision of Air Traffic Training Courses

Manuals, textbooks, and other training materials used to educate FAA controllers will need to be updated to reflect the airspace reclassification. According to the FAA Aeronautical Center in Oklahoma City, lesson plans, visual aids, handouts, laboratory exercises, and tests will need to be revised.

The cost of these revisions is determined by multiplying the total revision time by the hourly cost of the course manager making the changes. The course managers are level GS-14 (step 5) employees with an average loaded annual salary of $72,000. Assuming 2,080 hours per year, their average loaded hourly salary is $35. The cost of the course changes is estimated to be $43,000 (discounted). An additional cost of $10,000 (discounted) will accrue as the result of a one-week seminar and associated travel. This seminar will be necessary to educate course managers about the airspace reclassification. The total cost that will accrue from this factor is estimated to be $43,000 (discounted).

3. Re-education of the Pilot Community

Pilots who are presently certificated to operate in the U.S. airspace will need to become familiar with the airspace reclassification as the result of this rule. This task will be accomplished through a variety of publications, videotapes, and pilot meetings.

The FAA is considering the production of a videotape that will be provided as a public service to industry associations, such as AOPA, ALPA, and NBAA, to inform them of the airspace reclassification. This videotape could be shown at various association meetings to help re-educate the pilot community. The FAA's Office of Public Affairs estimates that the film will be 20 to 25 minutes long and could be produced at a cost of $75,000 (discounted).

The FAA is also considering the publication of an advisory circular (AC) which will document the new airspace classifications. The AC will be mailed to each registered pilot. It is estimated that one man-week at a level GS-14 (Step 5) will be required to draft the AC and obtain approval in the sponsoring organization, and one GS-14 man-week will be required to obtain FAA approval of the AC. The cost associated with 2 man-weeks at a level GS-14 needed to prepare the AC is estimated

This final rule is expected to generate benefits in the form of enhanced safety and operational efficiency to the aviation community. These benefits are briefly described, in qualitative terms, below:

1. Increased Safety Due to Better Understanding and Simplification

The FAA believes that the simplified classification in this rule will reduce airspace complexity and thereby enhance safety. This airspace reclassification mirrors the new ICAO airspace designations, except there will not be a U.S. Class F airspace.

This rule also will increase safety in the U.S. since foreign pilots operating aircraft in U.S. airspace will be familiar with the airspace designations and classification system.

Another simplification which is expected to help increase airspace safety is the change that will correlate the class of controlled airspace currently termed a control zone to the airspace of the surrounding area. Currently, several types of airspace are designated around an airport, which makes it difficult for pilots and controllers to determine how the areas are classified and which requirements apply. After the reclassification, the terminology will be more explanatory.

The conversion of statute mile designations to nautical mile designations is intended to further simplify operations. Since the instruments on-board the aircraft are calibrated in nautical miles and aviation charts have representations in nautical miles, this change will eliminate the need for pilots to convert between nautical and statute miles. This simplification will help pilots and controllers to be better able to understand the airspace designations in Part 71.

2. Reduced Minimum Distance from Cloud Requirement

This airspace reclassification will designate TCAs as Class B airspace areas. The VFR minimum distance from clouds requirement in this airspace will also change. Currently this distance is 500 feet below, 1,000 feet above, and 2,000 feet horizontal. In Class B airspace, the rule will require that the minimum distance from clouds be "clear of clouds." This change will afford VFR traffic increased opportunities to fly in Class B airspace in more types of weather than they currently have in a TCA. Furthermore, there will be reduced requests for deviation from ATC instruction to maintain cloud clearance. This action will not threaten safety since all aircraft operating in Class B airspace are provided with the appropriate separation.

3. Operation Of Ultralight Vehicles

This rule incorporates NAR task group 1–7.2 recommendations and changes Part 103 to correspond to the new airspace designations found in Part 71. There will be no decrease in safety because there is not change in the type of airspace in which ultralights are permitted to fly or operate.

Conclusion

Despite the fact that benefits are *not* quantifiable in monetary terms, the FAA, nonetheless, concludes that the benefits of this rule are expected to outweigh its expected costs.

International Trade Impact Assessment

Since this rule will not affect airspace outside the United States for which the United States is responsible, it is not expected to impose any new operating requirement in that airspace. As such, it will have no affect on the sale of foreign aviation products or services in the United States, nor will it affect the sale of U. S. products or services in foreign countries.

Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (RFA) was enacted by Congress to ensure that small entities are not unnecessarily and disproportionately burdened by government regulations. The RFA requires agencies

FEDERALISM IMPLICATIONS

The amendments in this final rule will not have substantial direct effect on the States, on the relationship between the National Government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that these amendments will not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

PAPERWORK REDUCTION ACT

In accordance with the Paperwork Reduction Act of 1980 (Pub L. 96-511), there are no requirements for information collection associated with this rule.

CONCLUSION

For reasons discussed in the preamble, and based on the findings in the Regulatory Evaluation Determination and the International Trade Impact Analysis, the FAA has determined that these amendments do not qualify as a major rule under Executive Order 12291. In addition, the FAA certifies that these amendments will not have a significant economic effect on a substantial number of small business entities under the criteria of the Regulatory Flexibility Act. These amendments are considered significant under DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979). A regulatory evaluation of these amendments, including a Regulatory Flexibility Determination and Trade Impact Analysis, has been placed in its entirety in the regulatory docket. A copy may be obtained by contacting the person identified under *"FOR FURTHER INFORMATION CONTACT."*

CROSS REFERENCE

To identify where existing regulations for Part 75 are relocated in existing Part 71, the following cross reference lists are provided:

CROSS REFERENCE TABLE

Old Section	New Section
75.1	71.601
75.11	71.603
75.13	71.605
75.17	Deleted
75.100	71.607
75.400	71.609

New Section	Old Section
71.601	75.1
71.603	75.11
71.605	75.13
71.607	75.100
71.609	75.400

To identify where existing regulations for Part 71 are relocated in the rule to be effective September 16, 1993, or if the regulations will be relocated in FAA Order 7400.9, the following cross reference lists are provided:

71.9	71.71
71.11	Deleted
71.12	71.41
71.13	71.71
71.14	71.51
71.15	71.31
71.17	71.5
71.19	71.7
71.101	Subpart E of FAA Order 7400.9
71.103	Subpart E of FAA Order 7400.9
71.105	Subpart E of FAA Order 7400.9
71.107	Subpart E of FAA Order 7400.9
71.109	Subpart E of FAA Order 7400.9
71.121	71.79
71.123	Subpart E of FAA Order 7400.9
71.125	Subpart E of FAA Order 7400.9
71.127	Subpart E of FAA Order 7400.9
71.151	Subpart E of FAA Order 7400.9
71.161	71.71 and Subpart E of FAA Order 7400.9
71.163	71.71 and Subpart E of FAA Order 7400.9
71.165	Subpart E of FAA Order 7400.9
71.171	Subpart D or E of FAA Order 7400.9
71.181	Subpart E of FAA Order 7400.9
71.193	71.33
71.201	71.901
71.203	Subpart H of FAA Order 7400.9
71.207	Subpart H of FAA Order 7400.9
71.209	Subpart H of FAA Order 7400.9
71.211	Subpart H of FAA Order 7400.9
71.213	Subpart H of FAA Order 7400.9
71.215	Subpart H of FAA Order 7400.9
71.301	Subpart E of FAA Order 7400.9
71.401	Subpart B of FAA Order 7400.9
71.501	Subpart C of FAA Order 7400.9
71.601	Deleted
71.603	Subpart A of FAA Order 7400.9
71.605	Subpart A of FAA Order 7400.9
71.607	Subpart A of FAA Order 7400.9
71.609	Subpart A of FAA Order 7400.9

New Section	**Old Section**
71.1	71.1
71.5	71.17
71.7	71.19
71.9	New
71.31	71.15
71.33	71.193
71.41	71.12
71.51	71.14
71.61	New
71.71	71.9, 71.13, 71.161, 71.163
71.73	71.3
71.75	71.5
71.77	71.6
71.79	71.121
71.901	71.201

Subpart C	71.301
Subpart D or Subpart E	71.171
Subpart E	71.101
Subpart E	71.103
Subpart E	71.105
Subpart E	71.107
Subpart E	71.109
Subpart E	71.123
Subpart E	71.125
Subpart E	71.127
Subpart E	71.151
Subpart E	71.161
Subpart E	71.163
Subpart E	71.165
Subpart E	71.181
Subpart E	71.301
Subpart H	71.203
Subpart H	71.207
Subpart H	71.209
Subpart H	71.211
Subpart H	71.213
Subpart H	71.215

The Rule

In consideration of the foregoing, the Federal Aviation Administration amends SFAR 51-1, SFAR 60, SFAR 62, Parts 1, 11, 45, 61, 65, 71, 75, 91, 93, 101, 103, 105, 121, 127, 135, 137, 139, and 171 of Federal Aviation Regulations (14 CFR Parts 1, 11, 45, 61, 65, 71, 75, 91, 93, 101, 103, 105, 121, 127, 135, 137, 139, and 171).

The authority citation of Part 71 is revised to read as follows:

Authority: 49 U.S.C. app. 1348(a), 1354(a), 1510; E.O. 10854, 24 FR 9565, 3 CFR, 1959–1963 Comp., p. 389; 49 U.S.C. 106(g); 14 CFR 11.69.

Subpart A—General

Source: Airspace Docket No. 80–AWA–18, (46 FR 403, 1/2/81) effective for each subpart, unless otherwise noted.

§ 71.1 Applicability.

[The complete listing for all jet routes and area high routes can be found in FAA Order 7400.7, *Compilation of Regulations* which was last published as of April 30, 1991, and effective November 1, 1991. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552 (a) and 1 CFR Part 51. The approval to incorporate by reference FAA Order 7400.7 is effective as of December 17, 1991, through September 15, 1993. Copies of this order may be obtained from the Document Inspection Facility, APA–220, Federal Aviation Administration, 800 Independence Avenue, S.W., Washington, D.C. 20591, (202) 267-3484. Copies may be inspected in Docket Number 24456 at the Federal Aviation Administration, Office of the Chief Counsel, AGC-10, Room 915G, 800 Independence Avenue, S.W., Washington, D.C. 20591 weekdays between 8:30 a.m. and 5 p.m. or at the Office of the Federal Register, 1100 L Street, N.W., Room 8401, Washington, D.C. This section is effective as of December 17, 1991 through September 15, 1993.[1]]

(a) The airspace assignments described in subparts B and C are designated as Federal airways.

(b) The airspace assignments described in subparts B through I are designated as control areas, the continental control area, control zones, transition areas, positive control areas, and reporting points, as described in the appropriate subpart.

(c) The airspace assignments described in subpart K of this part are designated as terminal control areas.

(d) The airspace assignments described in subpart J are designated as area low routes.

[1]Becomes effective 12/17/91 and expires as of 9/15/93.

(e) The airspace assignments described in subpart L of this part are designated as airport radar service areas.

(Amdt. 71–6, Eff. 6/25/70); (Amdt. 71–7, Eff. 7/22/70); (Amdt. 71–10, Eff. 3/14/85); [(Amdt. 71–14, Eff. 12/17/91)]

§ 71.3 Classification of Federal airways.

Federal airways are classified as follows:

(a) Colored Federal airways:

(1) Green Federal airways.

(2) Amber Federal airways.

(3) Red Federal airways.

(4) Blue Federal airways.

(b) VOR Federal airways.

§ 71.5 Extent of Federal airways.

(a) Each Federal airway is based on a centerline that extends from one navigational aid or intersection to another navigational aid (or through several navigational aids or intersections) specified for that airway.

(b) Unless otherwise specified in subpart B or C—

(1) Each Federal airway includes the airspace within parallel boundary lines 4 miles each side of the centerline. Where an airway changes direction, it includes that airspace enclosed by extending the boundary lines of the airway segments until they meet.

(2) Where the changeover point for an airway segment is more than 51 miles from either of the navigational aids defining that segment, and—

(i) The changeover point is midway between the navigational aids, the airway includes the airspace between lines diverging at angles of 4.5° from the centerline at each navigational aid and extending until they intersect opposite the changeover point; or

navigational aid nearer to the changeover point.

(3) Where an airway terminates at a point or intersection more than 51 miles from the closest associated navigational aid it includes the additional airspace within lines diverging at angles of 4.5° from the centerline extending from the associated navigational aid to a line perpendicular to the centerline at the termination point.

(4) Where an airway terminates, it includes the airspace within a circle centered at the specified navigational aid or intersection having a diameter equal to the airway width at that point. However, an airway does not extend beyond the domestic/oceanic control area boundary.

(c) Unless otherwise specified in subpart B or C—

(1) Each Federal airway includes that airspace extending upward from 1,200 feet above the surface of the earth to, but not including, 18,000 feet MSL, except that Federal airways for Hawaii have no upper limits. Variations of the lower limits of an airway are expressed in digits representing hundreds of feet above the surface (AGL) or mean sea level (MSL) and, unless otherwise specified, apply to the segment of an airway between adjoining navigational aids or intersections; and

(e) A Federal airway does not include the airspace of a prohibited area.

(Amdt. 71–3, Eff. 4/26/65); (Amdt. 71–5, Eff. 6/3/69)

§ 71.6 Extent of area low routes.

(a) Each area low route is based on a centerline that extends from one waypoint to another waypoint (or through several waypoints) specified for that area low route. An area low route does not include the airspace of a prohibited area. All mileages specified in connection with area low routes are nautical miles.

(b) Unless otherwise specified in subpart J, the following apply:

(1) Except as provided in paragraph (b)(2) of this section, each area low route includes, and is limited to, that airspace within parallel boundary lines 4 or more miles on each side of the route centerline as described in the middle column of the following table, plus that additional airspace outside of those parallel lines and within lines drawn outward from those parallel lines at angles of 3.25°, beginning at the distance from the tangent point specified in the right-hand column of the following table:

Miles from reference facility to tangent point	Miles from centerline to parallel lines	Miles from tangent point along parallel lines to vortices of 3.25° angles
Less than 17	4	51.
17 to, but not including 27	4	50.
27 to, but not including 33	4	49.
33 to, but not including 38	4	48.
38 to, but not including 43	4	47.
43 to, but not including 47	4	46.
47 to, but not including 51	4	45.
51 to, but not including 55	4	44.
55 to, but not including 58	4	43.
58 to, but not including 61	4	42.
61 to, but not including 63	4	41.
63 to, but not including 66	4	40.
66 to, but not including 68	4	39.

79 to, but not including 81	4	32.
81 to, but not including 83	4	31.
83 to, but not including 84	4	30.
84 to, but not including 86	4	29.
86 to, but not including 87	4	28.
87 to, but not including 88	4	27.
88 to, but not including 89	4	26.
89 to, but not including 91	4	25.
91 to, but not including 92	4	24.
92 to, but not including 93	4	23.
93 to, but not including 94	4	22.
94 to, but not including 95	4	21.
95 to, but not including 96	4	19.
96 to, but not including 97	4	18.
97 to, but not including 98	4	17.
98 to, but not including 99	4	15.
99 to, but not including 100	4	13.
100 to, but not including 101	4	11.
101 to, but not including 102	4	8.
102 to, but not including 105	4	0 (i.e., at tangent point).
105 to, but not including 115	4.25	0 (i.e., at tangent point).
115 to, but not including 125	4.50	0 (i.e., at tangent point).
125 to, but not including 135	4.75	0 (i.e., at tangent point).
135 to, but not including 145	5.00	0 (i.e., at tangent point).
145 to, but not including 150	5.25	0 (i.e., at tangent point).

(2) Each area low route, whose centerline is at least 2 miles, and not more than 3 miles from the reference facility, includes, in addition to the airspace specified in paragraph (b)(1) of this section, that airspace on the reference facility side of the centerline that is within lines connecting the point that is 4.9 miles from the tangent point on a perpendicular line from the centerline through the reference facility, thence to the edges of the boundary lines described in paragraph (b)(1) of this section, intersecting those boundary lines at angles of 5.15°

(3) Where an area low route changes direction, it includes that airspace enclosed by extending the boundary lines of the route segments until they meet.

(4) Where the widths of adjoining route segments are unequal, the following apply:

(i) If the tangent point of the narrower segment is on the route centerline, the width of the narrower segment includes that additional airspace within lines from the lateral extremity of the wider segment where the route segments join, thence toward the tangent point of the narrower route segment, until intersecting the boundary of the narrower segment.

(ii) If the tangent point of the narrower segment is on the route centerline extended, the width of the narrower segment includes that additional airspace within lines from the lateral extremity of the wider segment where the route

does not extend beyond the domestic/oceanic control area boundary.

(6) Each area low route includes that airspace extending upward from 1,200 feet above the surface of the earth to, but not including, 18,000 feet MSL, except that area low routes for Hawaii have no upper limits. Variations of the lower limits of an area low route are expressed in digits representing hundreds of feet above the surface (AGL) or mean sea level (MSL) and, unless otherwise specified, apply to the route segment between adjoining waypoints used in the description of the route.

(7) The airspace of an area low route within the lateral limits of a transition area has a floor coincident with the floor of the transition area.

(Amdt. 71–7, Eff. 7/22/70)

§ 71.7 Control areas.

Control areas consist of the airspace designated in subparts B, C, E, and J, but do not include the continental control area. Unless otherwise designated, control areas include the airspace between a segment of a main VOR Federal airway and its associated alternate segments with the vertical extent of the area corresponding to the vertical extent of the related segment of the main airway.

(Amdt. 71–7, Eff. 7/22/70)

§ 71.9 Continental control area.

The Continental Control Area consists of the airspace at and above 14,500 feet MSL overlying: the 48 contiguous States including the waters within 3 nautical miles of the coast; the waters between 3 and 12 nautical miles from the coast of the 48 contiguous States; the District of Columbia; Alaska including the waters within 3 nautical miles of the coast; and the waters between 3 and 12 nautical miles from the coast of Alaska; excluding the Alaska peninsula west of longitude 160°00'00'' W.; but does not include—

(a) The airspace less than 1,500 feet above the surface of the earth; or

Order 7400.7 (incorporated by reference, see § 71.1) consist of controlled airspace which, unless otherwise specified, extends upward from the surface of the earth and terminates at the base of the continental control area. Unless otherwise specified, control zones that do not underlie the continental control area have no upper limit. A control zone may include one or more airports and is normally a circular area with extensions as necessary to include instrument approach paths.]

(Amdt. 71–4, Eff. 7/27/68); [(Amdt. 71–14, Eff. 10/15/92)]

§ 71.12 Terminal control areas.

The terminal control areas listed in subpart K of this part consist of controlled airspace extending upward from the surface or higher to specified altitudes, within which all aircraft are subject to operating rules and pilot and equipment requirements specified in Part 91 of this chapter. Each such location includes at least one primary airport around which the terminal control area is located.

(Amdt. 71–6, Eff. 6/25/70); (Amdt. 71–8, Eff. 7/20/73); (Amdt. 71–11, Eff. 1/12/89)

§ 71.13 Transition areas.

The transition areas listed in subpart G consist of controlled airspace extending upward from 700 feet or more above the surface of the earth when designated in conjunction with an airport for which an approved instrument approach procedure has been prescribed; or from 1,200 feet or more above the surface of the earth when designated in conjunction with airway route structures or segments. Unless otherwise specified, transition areas terminate at the base of the overlying controlled airspace.

§ 71.14 Airport radar service areas.

The airport radar service areas listed in subpart L of this part consist of controlled airspace extending upward from the surface or higher to specified altitudes, within which all aircraft are subject to operating rules and equipment requirements speci-

is positive control of aircraft.

§ 71.17 Reporting points.

(a) The reporting points listed in subpart I consist of geographic locations, in relation to which the position of an aircraft must be reported in accordance with § 91.183 of this chapter.

(b) Unless otherwise designated, each reporting point applies to all directions of flight. In any case those names.

(Amdt. 71–13, Eff. 8/18/90)

§ 71.19 Bearings; radials; miles.

[All bearings and radials in this part are true and are applied from point of origin and all mileages in this part are stated as nautical miles.]

[(Amdt. 71–14, Eff. 10/15/92)]

part are designated as colored Federal airways.*

§ 71.103 Green Federal airways.

§ 71.105 Amber Federal airways.

§ 71.107 Red Federal airways.

§ 71.109 Blue Federal airways.

* The airspace descriptions in this part are published in the Federal Register (46 FR 403, 1/2/81). Due to their complexity and length, they will not be included in this publication of Part 71.

The airspace assignments described in this subpart are designated as VOR Federal airways. Unless otherwise specified, place names appearing in the descriptions indicate VOR or VORTAC navigational facilities identified by those names.*

§ 71.123 Domestic VOR Federal airways.

§ 71.125 Alaskan VOR Federal airways.

§ 71.127 Hawaiian VOR Federal airways.

* The airspace descriptions in this part are published in the Federal Register (46 FR 403, 1/2/81). Due to their complexity and length, they will not be included in this publication of Part 71.

or above 14,500 feet MSL and 1,500 feet or more

* The airspace descriptions in this part were published in the Federal Register (46 FR 403, 1/2/81). Due to their complexity and length, they will not be included in this publication of Part 71.

§71.161 Designation of control areas associated with jet routes outside the continental control area.

Unless otherwise specified, the airspace centered on each of the following jet route segments has a vertical extent identical to that of a jet route and a lateral extent identical to that of the Federal airway and is designated as a control area. Unless otherwise specified, the place names appearing in the description indicate VOR or VORTAC facilities identified by those names.*

* The airspace descriptions in this part were published in the Federal Register (46 FR 403, 1/2/81). Due to their complexity and length, they will not be included in this publication of Part 71.

§71.163 Designation of additional control areas.

Unless otherwise specified, each control area designated below has a lateral extent identical to that of a Federal airway and extends upward from 700 feet (until designated from 1,200 feet or more) above the surface of the earth, except that the airspace of a control area within the lateral limits of a transition area has a floor coincident with the floor of the transition area.*

§71.165 Designation of control area extensions.

Unless otherwise specified, each control area extension designated below extends upward from 700 feet above the surface of the earth, except that the airspace of a control area extension within the lateral limits of a transition area has a floor coincident with that of the transition area.*

The parts of airspace described below are designated as control zones.*

* The airspace descriptions in this part were published in the Federal Register (46 FR 403, 1/2/81). Due to their complexity and length, they will not be included in this publication of Part 71.

The parts of airspace described below are designated as transition areas.*

* The airspace descriptions in this part were published in the Federal Register (46 FR 403, 1/2/81). Due to their complexity and length, they will not be included in this publication of Part 71.

§ 71.193 Designation.

The areas of airspace described below are designated as positive control areas.

Alaskan Positive Control Area

That airspace overlying the state of Alaska, including the waters within 3 nautical miles of the coast, and the waters between 3 and 12 nautical miles from the coast of Alaska, from 18,000 feet MSL to and including FL 600 but not including the airspace less than 1,500 feet above the surface of the earth or the Alaska Peninsula west of longitude 160°00'00''W.

Continental Positive Control Area

That airspace within the continental control area from 18,000 feet MSL to and including FL 600 overlying: the 48 contiguous states, including the waters within 3 nautical miles of the coast; the District of Columbia; and the waters between 3 and 12 nautical miles from the coast of the 48 contiguous states; but excluding Santa Barbara Island, the Farallon Islands, and the portion south of latitude 25°04'00''N.

§ 71.201 Designation.

The locations described in this subpart are designated as reporting points.*

§ 71.203 Domestic low altitude reporting points.

The reporting points listed below are designated at all altitudes up to but not including 18,000 feet MSL.*

§ 71.207 Domestic high altitude reporting points.

The reporting points listed below are designated at all altitudes from 18,000 feet MSL to Flight Level 450, inclusive.*

* The airspace descriptions in this part are published in the Federal Register. Due to their complexity and length, they will not be included in this publication of Part 71.

§ 71.209 Other domestic reporting points.

The reporting points listed below are designated at all altitudes.*

§ 71.211 Alaskan low altitude reporting points.

The reporting points listed below are designated up to but not including 18,000 feet MSL.*

§ 71.213 Alaskan high altitude reporting points.

The reporting points listed below are designated at 18,000 feet MSL to Flight Level 450.*

§ 71.215 Hawaiian reporting points.

The reporting points listed below are designated at all altitudes.*

ignated as area low routes.**

** The area low route descriptions in this part are published in the Federal Register (46 FR 403, 1/2/81). Due to their complexity and length, they will not be included in this publication of Part 71.

§ 71.501 Designation.

The airspace descriptions listed below are designated as airport radar service areas. The primary airport for each airport radar service area is also designated. Except as otherwise specified, all mileages are nautical miles and all altitudes are above mean sea level.*

(Amdt. 71–10, Eff. 3/14/85)

* The airspace descriptions in this part are published in the Federal Register (46 FR 403, 1/2/81). Due to their complexity and length, they will not be included in this publication of Part 71.

Source: 56 FR 65638, 12/17/91.

[§ 71.601 Applicability.

[The routes described in § 71.607 between high altitude navigational aids or intersections of their signals, are designated as jet routes along which aircraft may be operated between 18,000 feet MSL and flight level 450. The routes described in § 71.609 are designated as area high routes.

[(Amdt. 71–14, Eff. 12/12/91)]

[§ 71.603 Jet routes.

[Each jet route designated in § 71.607 consists of a direct course for navigating between 18,000 feet MSL and flight level 450, inclusive, between the navigational aids and intersections specified for that route.

[(Amdt. 71–14, Eff. 12/12/91)]

[§ 71.605 Area routes above 18,000 feet MSL.

[Each area route designated in § 71.609 consists of a direct course for navigating aircraft at altitudes between 18,000 feet MSL and flight level 450, inclusive, between the waypoints specified for that route.

[(Amdt. 71–14, Eff. 12/12/91)]

[§ 71.607 Jet route descriptions.

[Each jet route description can be found in Part 75 of FAA Order 7400.7 (incorporated by reference, see § 71.1).

[(Amdt. 71–14, Eff. 12/12/91)]

[§ 71.609 Area high route descriptions.

[Each area route description can be found in Part 75 of FAA Order 7400.7 (incorporated by reference, see § 71.1).]

[(Amdt. 71–14, Eff. 12/12/91)]

AND REPORTING POINTS

Note: The following material becomes effective September 16, 1993.

Subpart A—General; Class A Airspace

Source: Docket No. 24456, (56 FR 65638), December 17, 1991.

§ 71.1 Airspace classification.

The complete listing of these airspace designations can be found in FAA Order 7400.9, Airspace Reclassification, which is effective September 16, 1993. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR Part 51. The approval to incorporate by reference FAA Order 7400.9 is effective as of September 16, 1993, through September 15, 1994. Copies of this order may be obtained from the Document Inspection Facility, APA-220, Federal Aviation Administration, 800 Independence Avenue, S.W., Washington, D.C. 20591 (202) 267-3484. Copies may be inspected in Docket No. 24456 at the Federal Aviation Administration, Office of the Chief Counsel, AGC-10, Room 915G, 800 Independence Avenue, S.W., Washington, D.C. 20591 weekdays between 8:30 a.m. and 5 p.m. or at the Office of the Federal Register, 1100 L Street, N.W., Room 8401, Washington, D.C.

(a) The airspace assignments described in this subpart are designated as Class A airspace areas.

(b) The airspace assignments described in Subpart B are designated as Class B airspace areas.

(c) The airspace assignments described in Subpart C are designated as Class C airspace areas.

(d) The airspace assignments described in Subpart D are designated as Class D airspace areas.

(e) The airspace assignments described in Subpart E are designated as Class E airspace areas.

(f) Airspace not assigned in Subpart A, B, C, D, E, or H of this part is uncontrolled airspace and is designated as Class G airspace.

§ 71.3 [Reserved]

§ 71.5 Reporting points.

The reporting points listed in Subpart H of FAA Order 7400.9 (incorporated by reference, see § 71.1) consist of geographic locations at which the position of an aircraft must be reported in accordance with Part 91 of this chapter.

§ 71.7 Bearings, radials, and mileages.

All bearings and radials in this part are true and are applied from point of origin and all mileages in this part are stated as nautical miles.

§ 71.9 Overlapping airspace designations.

(a) When overlapping airspace designations apply to the same airspace, the operating rules associated with the more restrictive airspace designation apply.

(b) For the purpose of this section——

(1) Class A airspace is more restrictive than Class B, Class C, Class D, Class E, or Class G airspace;

(2) Class B airspace is more restrictive than Class C, Class D, Class E, or Class G airspace;

(3) Class C airspace is more restrictive than Class D, Class E, or Class G airspace;

(4) Class D airspace is more restrictive than Class E or Class G airspace; and

(5) Class E is more restrictive than Class G airspace.

§ 71.31 Class A airspace.

The airspace descriptions contained in § 71.33 of this part and the routes contained in Subpart A of FAA Order 7400.9 (incorporated by reference, see § 71.1) are designated as Class A air-

from 18,000 feet MSL to and including FL600

gitude 160°00'00" West.

§ 71.41 Class B airspace.

The Class B airspace areas listed in Subpart B of FAA Order 7400.9 (incorporated by reference, see § 71.1) consist of specified airspace within which all aircraft operators are subject to the minimum pilot qualification requirements, operating rules, and aircraft equipment requirements of Part 91 of this chapter. Each Class B airspace area designated for an airport in Subpart B of FAA Order 7400.9 (incorporated by reference, see § 71.1) contains at least one primary airport around which the airspace is designated.

§ 71.51 Class C airspace.

The Class C airspace areas listed in Subpart C of FAA Order 7400.9 (incorporated by reference, see § 71.1) consist of specified airspace within which all aircraft operators are subject to operating rules and equipment requirements specified in Part 91 of this chapter. Each Class C airspace area designated for an airport in Subpart C of FAA Order 7400.9 (incorporated by reference, see § 71.1) contains at least one primary airport around which the airspace is designated.

§ 71.61 Class D airspace.

The Class D airspace areas listed in Subpart D of FAA Order 7400.9 (incorporated by reference, see § 71.1) consist of specified airspace within which all aircraft operators are subject to operating rules and equipment requirements specified in Part 91 of this chapter. Each Class D airspace area designated for an airport in Subpart D of FAA Order 7400.9 (incorporated by reference, see § 71.1) contains at least one primary airport around which the airspace is designated.

§ 71.71 Class E airspace.

Class E Airspace consists of:

(a) The airspace of the United States, including that airspace overlying the waters within 12 nautical miles of the coast of the 48 contiguous states and Alaska, extending upward from 14,500 feet MSL up to, but not including 18,000 feet MSL, and excluding—

(1) The Alaska peninsula west of longitude 160°00'00"W.;

(2) The airspace below 1,500 feet above the surface of the earth; and

(3) Prohibited and restricted areas, other than restricted areas listed in Subpart E of FAA Order 7400.9 (incorporated by reference, see § 71.1).

(b) The airspace areas designated for an airport in Subpart E of FAA Order 7400.9 (incorporated by reference, see § 71.1) within which all aircraft operators are subject to the operating rules specified in Part 91 of this chapter.

(c) The airspace areas listed as domestic airspace areas in Subpart E of FAA Order 7400.9 (incorporated by reference, see § 71.1) which extend upward from 700 feet or more above the surface of the earth when designated in conjunction with an airport for which an approved instrument approach procedure has been prescribed, or from 1,200 feet or more above the surface of the earth when designated in conjunction with segments of airways or routes. When such areas are designated in conjunction with airways or routes, the extent of such designation has the lateral extent identical to that of a Federal airway and extends upward from 1,200 feet or higher unless otherwise specified.

(d) The Federal airways and area low routes described and listed in Subpart E of FAA Order 7400.9 (incorporated by reference, see § 71.1).

(e) The airspace areas listed as offshore airspace areas in Subpart E of FAA Order 7400.9 (incorporated by reference, see § 71.1) which are designated in international airspace within areas of domestic radio navigational signal or ATC radar coverage, and within which domestic ATC procedures are applied. When designated in conjunction with a route, the extent of such designation is as follows:

(1) Unless otherwise specified, the airspace centered on each jet route segment listed in Subpart E of FAA Order 7400.9 (incorporated by reference, see § 71.1) has a vertical extent identical to that of a jet route and a lateral extent identical to that of a Federal airway. Unless otherwise specified, the place names appearing in the descriptions indicate VOR or VORTAC facilities identified by those names.

(2) Unless otherwise specified, each airspace area has a lateral extent identical to that of a Federal airway and extends upward from 1,200 feet above the surface of the earth.

§ 71.73 Classification of Federal airways.

Federal airways are classified as follows:

(a) Colored Federal airways:

(1) Green Federal airways.

(2) Amber Federal airways.

(3) Red Federal airways.

(4) Blue Federal airways.

(b) VOR Federal airways.

§ 71.75 Extent of Federal airways.

(a) Each Federal airway is based on a center line that extends from one navigational aid or intersection to another navigational aid (or through several navigational aids or intersections) specified for that airway.

(b) Unless otherwise specified:

(1) Each Federal airway includes the airspace within parallel boundary lines 4 miles each side of the center line. Where an airway changes direction, it includes that airspace enclosed by extending the boundary lines of the airway segments until they meet.

(2) Where the changeover point for an airway segment is more than 51 miles from either of the navigational aids defining that segment, and——

(i) The changeover point is midway between the navigational aids, the airway includes the airspace between lines diverging at angles of

changeover point, and extending until they intersect with the bisector of the angle of the center lines at the changeover point; and between lines connecting these points of intersection and the navigational aid nearer to the changeover point.

(3) Where an airway terminates at a point or intersection more than 51 miles from the closest associated navigational aid, it includes the additional airspace within lines diverging at angles of 4.5° from the center line extending from the associated navigational aid to a line perpendicular to the center line at the termination point.

(4) Where an airway terminates, it includes the airspace within a circle centered at the specified navigational aid or intersection having a diameter equal to the airway width at that point. However, an airway does not extend into an oceanic control area.

(c) Unless otherwise specified—

(1) Each Federal airway includes that airspace extending upward from 1,200 feet above the surface of the earth to, but not including, 18,000 feet MSL, except that Federal airways for Hawaii have no upper limits. Variations of the floor of that area.

(d) A Federal airway does not include the airspace of a prohibited area.

§ 71.77 Extent of area low routes.

(a) Each area low route is based on a center line that extends from one waypoint to another waypoint (or through several waypoints) specified for that area low route. An area low route does not include the airspace of a prohibited area. All mileages specified in connection with area low routes are nautical miles.

(b) Unless otherwise specified in Subpart E of FAA Order 7400.9 (incorporated by reference, see § 71.1), the following apply:

(1) Except as provided in paragraph (6)(2) of this section, each area low route includes, and is limited to, that airspace within parallel boundary lines 4 or more miles on each side of the route center line as described in the middle column of the following table, plus that additional airspace outside those parallel lines and within lines drawn outward from those parallel lines at angles of 3.25°, beginning at the distance from the tangent point specified in the right-hand column of the following table:

Miles from reference facility point to tangent point	Miles from center line to parallel lines	Miles from tangent along parallel line to vertices of 3.25° angles
Less than 17	4	51
17 to, but not including 27	4	50
27 to, but not including 33	4	49
33 to, but not including 38	4	48
38 to, but not including 43	4	47
43 to, but not including 47	4	46
47 to, but not including 51	4	45
51 to, but not including 55	4	44
55 to, but not including 58	4	43
58 to, but not including 61	4	42
61 to, but not including 63	4	41
63 to, but not including 66	4	40
66 to, but not including 68	4	39
68 to, but not including 70	4	38
70 to, but not including 72	4	37
72 to, but not including 74	4	36

83 to, but not including 84	*4*	*30*
84 to, but not including 86	*4*	*29*
86 to, but not including 87	*4*	*28*
87 to, but not including 88	*4*	*27*
88 to, but not including 89	*4*	*26*
89 to, but not including 91	*4*	*25*
91 to, but not including 92	*4*	*24*
92 to, but not including 93	*4*	*23*
93 to, but not including 94	*4*	*22*
94 to, but not including 95	*4*	*21*
95 to, but not including 96	*4*	*19*
96 to, but not including 97	*4*	*18*
97 to, but not including 98	*4*	*17*
98 to, but not including 99	*4*	*15*
99 to, but not including 100	*4*	*13*
100 to, but not including 101	*4*	*11*
101 to, but not including 102	*4*	*8*
102 to, but not including 105	*4*	*0 (i.e., at tangent point).*
105 to, but not including 115	*4.25*	*0 (i.e., at tangent point).*
115 to, but not including 125	*4.50*	*0 (i.e., at tangent point).*
125 to, but not including 135	*4.75*	*0 (i.e., at tangent point).*
135 to, but not including 145	*5.00*	*0 (i.e., at tangent point).*
145 to, but not including 150	*5.25*	*0 (i.e., at tangent point).*

(2) Each area low route, whose center line is at least 2 miles, and not more than 3 miles from the reference facility, includes, in addition to the airspace specified in subparagraph (1) of this paragraph, that airspace on the reference facility side of the center line that is within lines connecting the point that is 4.9 miles from the tangent point on a perpendicular line from the center line through the reference facility, thence to the edges of the boundary lines described in paragraph (6)(1) of this section, intersecting those boundary lines at angles of 5.15°.

(3) Where an area low route changes direction, it includes that airspace enclosed by extending the boundary lines of the route segments until they meet.

(4) Where the widths of adjoining route segments are unequal, the following apply:

(i) If the tangent point of the narrower segment is on the route center line, the width of the narrower segment includes that additional airspace within lines from the lateral extremity of the wider segment where the route segments join, thence toward the tangent point of the narrower route segment, until intersecting the boundary of the narrower segment.

(ii) If the tangent point of the narrower segment is on the route center line extended, the width of the narrower segment includes that additional airspace within lines from the lateral extremity of the wider segment where the route segments join, thence toward the

at that waypoint, except that an area low route does not extend into an oceanic control area.

(6) Each area low route includes that airspace extending upward from 1,200 feet above the surface of the earth to, but not including, 18,000 feet MSL, except that area low routes for Hawaii have no upper limits. Variations of the lower limits of an area low route are expressed in digits representing hundreds of feet above

§ 71.79 Designation of VOR Federal airways.

Unless otherwise specified the place names appearing in the descriptions of airspace areas in Subpart E of FAA Order 7400.9 (incorporated by reference, see § 71.1) designated as VOR Federal airways indicate VOR or VORTAC navigational facilities identified by those names.

Subpart F—[Reserved]

Subpart G—[Reserved]

§ 71.901 Applicability.

Unless otherwise designated:

(a) Each reporting point listed in Subpart H of FAA Order 7400.9 (incorporated by reference, see § 71.1) applies to all directions of flight. In any case where a geographic location is designated as a reporting point for less than all airways passing through that point, or for a particular direction of flight along an airway only, it is so indicated by including the airways or direction of flight in the designation of geographical location.

(b) Place names appearing in the reporting point descriptions indicate VOR or VORTAC facilities identified by those names.